

Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Vol. XL., No. 1

NEW YORK, JANUARY, 1912

Fifteen Cents a Copy
One Dollar a Year

GENERAL SCIENTIFIC SECTION

A SYMPTOM OF MASTOIDITIS.*

H. A. ALDERTON, M. D.

Laryngological, Rhinological and Aural Surgeon to the
Eye and Ear, Bushwick and Kings County Hospitals;
Otolologist to Kingston Avenue Hospital; Nose and
Throat Surgeon to Nassau Hospital.

Brooklyn, N. Y.

The average case of mastoiditis offers very little difficulty in the way of diagnosis; the indications being so evident that the merest tyro in otology recognizes the condition.

Beyond this region of certainty there is a middle field which is misty to the beginner or to the general practitioner, but which to the trained otologist is familiar ground, some one symptom or group of symptoms, more or less obscure in themselves, indicating with considerable certainty the nature of the trouble and the necessity for intervention. Such symptoms, for instance, as drooping of the posterior superior wall of the external auditory canal in the neighborhood of the drum membrane; the persistence of a profuse, thick, purulent discharge; the existence of a deeply congested and bulging drum membrane, notwithstanding extensive incision, associated with or without a profuse purulent discharge; the presence of a continuous throbbing tinnitus, which remains unabated after adequate incision and irrigation; the involvement of the deep cervical lymphatic glands anterior and posterior to the attachment of the sterno-cleido-mastoid muscle; the localized tenderness at the posterior edge of the base of the mastoid process over the site of the emergence of the mastoid emissary veins; the occurrence and continuance of a slight febrile movement, day after day; the depreciation in the general health, a slight or moderate malaise, accompanied by a coated tongue and odorous breath; the character of the infective agent, whether mild or virulent, the streptococcus, meningococcus, capsulatus and mucosus being especially of the latter type; the presence of a pulsating light reflex on the pus exuding from the perforation in the drum membrane; lastly, possibly, the evidence in the differential blood count of an increase of polymorphonuclear percentage above 80 or an increasing percentage as contrasted with a lesser degree of increase in the leucocyte count, this becoming more evident in successive examinations.

Finally there are a certain number of cases which puzzle even the most expert otologist. These cases may have only a slight discharge, which, however, keeps up unduly long considering the apparently moderate involvement of the middle ear structures; or the drum membrane may heal without quite returning to its usual normal appearance, the hearing remaining poor; there may be no evidence of a febrile movement nor any complaint of aching nor pain around the mastoid or in the depths of the ear, except at certain periods for a short time, especially at night; or there may be no tenderness on pressure or no confession of tenderness; no bulging of the drum membrane nor of the posterior-superior wall of the external auditory canal near the membrane. Sometimes there is complaint

only of a dull ache over the affected side of the head. In these cases the throbbing tinnitus may and often is present but is not much emphasized, questioning at times being necessary to elicit the presence of the symptom. The general health may not seem to be affected. Frequently, however, after consent has been given to operation the patients will confess to a subconscious knowledge that something was wrong; often the patient confides to the house surgeon that he or she has no pain, feels all right and does not see any necessity for operation, only consenting because of confidence placed in the attending surgeon. And, occasionally, it is only on the appearance of external swelling that the otologist wakes up to the fact that the disease process has been steadily advancing during all this quiescent period.

Now it is just in these cases of doubtful diagnosis, though present as well, as a rule, in the other more evident cases, that the symptom to which the writer would like to draw attention is often present and of great value as corroborative evidence.

This symptom consists in a blurring of the outline of the mastoid tip as contrasted with that of the healthy side. The edges of the tip of the affected mastoid process are not so well defined as they are on the opposite side, or, when both sides are involved, as they should be normally. This blurring of outline is quite distinct from any localized swelling such as precedes a perforation of the mastoid cortex in the formation of a sub-periosteal abscess or a case of Bezold's mastoiditis. It may be the precursor of either of these conditions or it may occur when there is very little chance of either occurring.

The symptom is elicited by grasping the tip, anteriorly and posteriorly, between the fingers of one hand while exercising a control with the other hand on the healthy tip of the other side; the difference in definiteness of outline is then easily appreciable. The writer has had house surgeons and assistants, not knowing which was the involved ear, make out the affected side by this method alone. And in a large number of cases of acute mastoiditis, the presence of this symptom in conjunction with the existence of an acute middle ear suppuration has determined operation, though the patient was apparently progressing as favorably as usual; and in every case the operative findings have confirmed the value of the symptom as an important indication for operation. It goes without saying that a negative finding has not the importance attached the positive. The symptom is more difficult to elicit in fat or in very muscular people than in the thin and flabby. Of course, where both sides are affected the element of experience and tactile sensibility on the part of the observer comes especially into play and in these cases one may be misled more easily than in unilateral cases. While the swelling from otitis externa sometimes leads to doubt, this latter is almost always reduced in a few days by local treatment and the use of the ice-bag, upon which event the presence of the above mentioned symptom becomes manifest if an acute mastoiditis exists.

The blurring of the outline is, of course, due to a mild in-

*Read at the Meeting of the American Otological Society, June, 1911.

flammatory infiltration of the periosteum of the mastoid tip and of the adjacent soft structures brought about by their juxtaposition to the underlying inflamed bone and seemed in most of the writer's cases to involve the entire periosteal lining of the mastoid process. The soft parts over the mastoid are more boggy than those over the unaffected side; this boggi-ness is at times sufficient to render the posterior auricular fold slightly less well defined in the affected side. But even where this boggi-ness is not apparent to the eye, the experienced hand will often detect the presence of the blurring of outline of the mastoid tip, the symptom on which the writer wishes particularly to lay stress, especially as occurring in cases of acute mastoiditis.

THE DIAGNOSIS OF EYE-STRAIN.

ELLICE M. ALGER, M.D.

Associate Professor of Ophthalmology, Post Graduate Medical School, New York.

New York

The train of symptoms indicative of eye-strain is not always as clear as the diagnostician might desire. Every attempt to observe things distinctly, and especially objects near at hand, involves more or less muscular adjustment and ocular focusing, and this, like all other muscular effort, induces proportionate fatigue. After a variable period of rest, the muscles involved regain their tone and are ready for fresh efforts, but muscles which have been exercised beyond their physiologic capacity not only tire more readily but require longer periods of rest before their tone is restored.

It is entirely possible to strain normal eyes by continuous overuse, but there are some conditions under which eye-strain is practically universal. Some neurasthenics possess such slow metabolic processes that they bear fatigue of any sort badly, and their eyes tire with corresponding facility. Ordinarily most neurasthenics suffer from eye-strain, a fact which is not only to be considered as a symptom of their general condition, but sometimes as its cause. The chief strain, however, comes from the abnormal eye, be it hyperopic or astigmatic. Such eyes not infrequently have perfectly normal vision, and the patients have no idea wherein lies the source of their trouble. It is the muscular effort necessary to the sharp vision that causes the fatigue, while the over-stimulation of tired muscles causes a long train of symptoms, sensory, motor and secretory.

Among the objective symptoms which should warn the physician of the presence of eye-strain are the elevation or depression of an eyebrow, the formation of abnormal wrinkles in the forehead and at the angle of the eyes, the constant blinking of the eyes, and holding the head in unnatural positions in the effort to see distinctly. On the other hand many cases have no definite indications pointing to the eyes, and the physician must diagnose eye-strain from separate symptoms found clinically to be of etiologic relation, as in chronic headache. This symptom has been estimated to be present in over eighty per cent. of the cases suffering from this condition.

The "eye" headache as a rule comes on gradually after the patient has been at work some time, and is made worse by use of the eyes. It is most noticeably present in the afternoon headache and is absent on Sundays and holidays. When the eyes have been strained for long periods constant and severe cephalalgia results. The localization of the pain is not important, but the frontal and occipital regions are most commonly involved.

Many, if not all, the true migraine or sick headaches are either entirely caused by or complicated in the eye-strain. The same may be said of many of the habit-spasms, ties which are incorrectly called chorea. Eye-strain should always be suspected in neurasthenia and the other fatigue neuroses; because, whether one considers it a cause or an effect, its correction will often accomplish much for the comfort of the sufferer. All patients over thirty-five who use their eyes for continuous

work are likely to be straining them more or less. Normal people begin to require assistance for their normal eyes soon after forty, and many refractive difficulties cause this so-called presbyopia or old-sight to become manifest earlier than usual. Such common ills as nausea, dizziness, bilious attacks and the like, often result from eye-strain. Many of the symptoms which accompany the menopause, particularly the headaches, are the result of presbyopia, which can be relieved completely by suitable treatment of the eyes.

But many of these functional conditions may result from several causes, and the physician must of necessity investigate these singly, taking the most serious or the most probable first, so that headache due to brain tumor, or to uremia, shall not be classified as eye-strain. Exclusion of the eyes is sometimes absurdly easy, and sometimes extremely difficult. It does not follow that because a patient has a refractive error the cause of his trouble has been uncovered, for all of us possess such errors, but when relief of symptoms follows correction, we stand on firm ground.

The one-method man will fail about as often as the novice or the man of routine. The result depends much more on judgment than on extraordinary skill, and there is a deal more to the relief of eye-strain than the correction of an error of refraction or a lateral squint.

ON OBTAINING BLOOD-SPECIMENS FOR LABORATORY-EXAMINATIONS.

THOMAS WOOD HASTINGS, A. B., M. D.,

Professor of Clinical Pathology, Cornell University Medical College; Assistant Visiting Physician to Bellevue Hospital, Second Division, Etc.
New York.

The valuable diagnostic assistance to be obtained through blood-examinations is well known to physicians to-day. Likewise it is realized by medical men in general practice and by specialists, if not by the laity, that it is beyond possibility for the active professional man himself to carry out these accessory diagnostic examinations, which call for some skill resulting from long practice and for time, the latter of which is the more prohibitive condition.

It is, therefore, incumbent upon the medical practitioner, who has not at his call a laboratory-trained assistant, to make himself familiar with the methods of obtaining certain specimens for examination, particularly specimens of blood, which alone will be briefly considered in this paper.

The more commonly requested examinations of blood at the present time necessitate only six technical procedures:

(1) Estimation of hemoglobin; (2) method for diluting blood for counting red cells and white cells (erythrocytes and leucocytes); (3) slide smear preparation for differential counting and for the study of non-bacterial parasites (e. g., plasmodium malarie); (4) collection of serum for agglutination tests (e. g., Widal's test for typhoid fever); (5) collection of blood for the Wassermann and the Noguchi tests for syphilis; and (6) the method of obtaining blood for blood cultures (e. g., for septicemic and cytogenic infectious processes).

Estimation of Hemoglobin: If symptoms and signs are such as may arise from a low hemoglobin content—as shortness of breath, palpitation of the heart, basal systolic heart murmurs, and many more—the blood test may be made with the Tallqvist paper-scale, which will at once detect any well-marked degree of anemia. If one wished, however, to determine with sane accuracy the degree of anemia, for classification of the type of anemia or for rating improvement following therapy, one should use the hemoglobinometer of von Fleischl, Sahli or Dare. There is no possibility of devising a method which will enable one to estimate the hemo-

globin content of the blood away from the patient—which will permit of one individual collecting a specimen and sending it to another individual at a distance for examination.

One should be particularly on guard against relying upon pallor as an indication for or against a hemoglobin estimation, for it is the least reliable sign of a lowered hemoglobin value.

The red and the white cell-count specimen of blood may be obtained readily by any one who takes the trouble to



master the single technique of diluting the blood with a Thoma-Zeiss diluting pipette. The most satisfactory pipettes are those which are short in length, of wide bore at the end and which are sold as red-cell counting-pipettes. In practice it is unnecessary to make use of the white-cell counting-pipettes. The best diluting fluid to use is Toisson's, for which the formula may be found in any text-book on clinical microscopy or clinical pathology. This diluting fluid should have been filtered within a day or two of using in order to get rid of certain fungus spores which may be mistaken for leucocytes. It is best to draw the blood from the lobe of the ear, which should be washed off gently with alcohol, wiped dry,

and punctured gently with a small Hagedorn needle. The Hagedorn needle is recommended since several of these may be carried in a small glass tube or bottle and thus sterilized thoroughly by heating after having been washed clean with cold water. After puncturing the lobe of the ear, the blood should be very gently squeezed with a milking motion so that it flows into the lobe of the ear. The first drop of blood should be wiped away and the second drop drawn up into the diluting pipette to the mark 0.5 and the end of the pipette should be placed well under the surface of the Toisson's solution, and the solution slowly drawn up into the bulb and above the bulb to the mark 101.

The rubber tube attached to the pipette should be folded over alongside of and tight around the tube in a simple knot and then, with the thumb over the top, the pipette should be forcefully shaken, in order to distribute the red cells throughout the fluid. If properly shaken and if the Toisson's solution has been properly prepared, satisfactory counts may be made twenty hours, even, after the specimen has been taken, which will allow sufficient time for the specimen to be sent to another individual for counting.

The differential count. For making a differential of the whites (leucocytes), smears of blood should be made (on cover-glasses). A fresh drop of blood should be touched with the center of the flat surface of the "cover-slip," and dropped, with the blood side down, onto a second cover-slip in such a way that the corners of the two cover-slips overlap. If the cover-slips are clean and free from dust, the drop of blood will spread out and then the two cover-slips should be drawn apart quickly, so that the flat surface of one will be drawn away against the flat surface of the other. The two smears should then be allowed to dry for five or ten minutes in the air. The slide method for making smears

should not be used for leucocyte counting, since such methods draw the polynuclear leucocytes to the sides and end of the smear, and thus give an unequal distribution of the white cells, a fact which is taken advantage of in studying the phagocytosis.

For examination for malaria and the blood parasites, the slide preparation is the best, and is easily made by touching the flat surface of the slide near its end to a fresh drop of blood, and either drawing or pushing the drop of blood along the surface of the slide with the edge of the end of a second slide. The slide-smear should be allowed to dry five or ten minutes in the air.

Blood specimens for Serum-reactions—Widal's for typhoid. Two methods for carrying out serum-reactions for the diagnosis of typhoid and other diseases may be employed, the "wet" method and the "dry."

(A) For the "dry" method two or three fresh drops of blood should be collected on a glass slide by touching the flat surface of the slide to the drop of blood, which should be allowed to dry, without spreading, in the air. By this method a proximate dilution only may be obtained, and for this reason the "wet" method is preferable.

(B) For the "wet" method small glass tubes, similar to those of the diagram (Fig. 1) should be used. The open tip of the curved end of the tube should be touched to several drops of blood, which, through capillary attraction, will run up into the bulb of the tube; the bulb thus may be readily two-thirds filled with blood. After collecting the blood, both tips should be sealed with sealing wax. The specimen thus obtained may be sent to a laboratory and, when received by the examiner, it will be found that the clear serum has separated from the blood-clot. From the clear serum, accurate dilutions of 1:50 may be made, which are necessary for diagnostic reactions.

Serum for Wassermann's and for Noguchi's tests. For these tests, and for blood cultures, the specimen may be collected in the same manner—the most satisfactory method is the employment of a Ewing blood-culture pipette—as shown in Fig. 2. The pipette should be kept in a larger glass tube plugged with cotton, so that the entire outfit may be readily sterilized by heating and kept sterile for immediate use.

The skin over one bend of the elbow should be rubbed thoroughly with soap and water, and then with alcohol; a bandage is wound tightly around the arm above the elbow, and the needle (Fig. 3) inserted through the skin directly into the vein—usually the median-basilic—and the blood allowed to flow into the tube until the tube is about two-thirds full. Then the bandage should be removed from the arm, the needle withdrawn, the blood blown out immediately into a sterile test tube and the tube then plugged with cotton.

For blood cultures the blood should be immediately blown out into the tubes of culture media.

For Wassermann's and for Noguchi's tests the blood may be allowed to flow from the open end of the pipette, by lowering the pipette directly into the sterile tube.

A simple method for the Wassermann's and the Noguchi's test is to insert a needle, without the Ewing pipette attached, directly into the arm, and allow the blood to drop into the sterile test tube, which should be filled to the depth of two inches.

The needles should be about one and one-half inches long, and between one-sixteenth and one-eighth inch (one millimeter) in diameter. It is not possible to send by mail or express specimens thus collected.

For the Wassermann's and the Noguchi's tests, the tubes of blood may be allowed to stand until the serum separates, and the serum may then be transferred to a small tube or bottle tightly stoppered with a small boiled cover, sealed with sealing wax and then sent by mail.

Noguchi describes the use of larger sized tubes similar to

Figure 1. These may be sealed with sealing wax, and sent by mail.

Specimens for *blood-cultures*. For this purpose the blood may be collected as already described for the Wassermann's or Noguchi's test, and the blood blown out upon the tubes of media.

It is a difficult matter for one without experience to obtain specimens for blood cultures and to send them to another individual for examination, without contamination.

Some advise the use of all-glass syringes for the collection of blood for cultures, but by this method the chances of contamination are increased, and the results are not nearly so satisfactory as when the Ewing pipette is used.

THE USE OF HOT IRRIGATIONS IN THERMAL TRAUMA.

ACHILLES ROSE, M. D.

New York.

Reading history, or studying ethnography, we feel amazed when we learn of cruelties among the ancients and barbarous peoples, but we overlook our own neglect in the routine treatment of extensive burns by dressings. It is now over fifty years since Passavant, of Frankfort a/M, established that the continuous warm water bath is to be considered the ideal remedy, not to be surpassed by any other method, in the treatment of extensive burns. On different occasions I have furnished conclusive evidence that it was Passavant who first treated extensive burns by means of the continuous warm water bath and who described this method in an extensive and masterly way, that it has been named after Hebra who practiced it first in the year 1861, that is, fifty years ago—four years after Passavant's publication.

From time to time medical writers, recently Dr. Friedrich Grosse, of New York, have expressed their indignation that this ideal treatment is not generally adopted, but nobody can have more reason to complain than the writer of this paper. I saw an article on the treatment of burns recently published, and wrote a reply calling attention to the omission of this best of all remedies; notwithstanding this, there appear again and again papers on this subject in which all kinds of dressings are described, but in which the continuous bath is not mentioned.

The continuous warm water bath gives almost instantaneous and even complete relief from pain, which everybody knows is most excruciating in cases of extensive burns.

It is the mildest method not requiring dressings. How painful it is for any one who knows the wonderfully soothing effect of the bath in cases of burns, to see the routine treatment by dressings! In the warm water the wound is constantly kept clean, the water penetrates the burnt tissues, in consequence of which they remain moist and soft. Without this immersion the cuticle which has been destroyed allows exposed tissues to harden and form an impenetrable cover over the deeper parts. Immersed in water, tissues which have become gangrenous cannot dry up, but remain moist and for this reason the wound is, as said before, constantly kept clean. There is no accumulation of pus, no crusting of desiccating wound secretion, and, what is most essential, no dressing is required. The patient has not to suffer the often painful procedure of a change of dressing.

The fundamental advantages of the continuous bath in cases of burns are those which we understand from its physiological action on circulation and innervation in general. The principle in using the continuous warm bath, not only in cases of burn but also in erysipelas of trunk or extremity, of articular rheumatism, of phymatiasis (barbarously called tuberculosis) of bone and joints and other forms of phymatiasis, is to eliminate the products of inflammation and infection.

The physiological action of the warm bath I have fully described in my book on "Carbonic Acid in Medicine" and wish

to refer to it. In it are notes on the history of the therapeutic value of the warm bath. Especially interesting is the fact that Baudelocque, an obstetrician of Napoleon's time, made use of it in peritonitis and that his method was revived by Noeggerath in the German Hospital of New York City, but abandoned again after Noeggerath's departure. Interesting is it also that Paulus, of Aegina, who lived in the seventh century under the reign of the Byzantine Emperor, had certain patients operated on for hernia submersed in warm water for seven days. All the early advocates of the continuous bath, beginning with Paulus of Aegina, practiced antiseptic principles, although they did not call their procedures by that name. All who have had experience with it will admit that the warm bath is still the most reliable means of applying antiseptic principles in cases of extensive burn. The arrangement for carrying this out, as introduced by Dent, and the appliance for which I have described in the book before mentioned, should be in every hospital. Not only in the lunatic asylums for the treatment of mania, insomnia, but in other institutions for surgical cases of phymatiasis, even for generalized phymatiasis, erysipelas, and different forms of rheumatism and arthritis. Above all, however, for the treatment of extensive burns.

I wish to emphasize the cruelty which deprives cases of extensive burn from having this ideal treatment.

Early Diagnosis of Tuberculosis.

To the classic symptoms of elevation of temperature, increase in rate of pulse, impairment of resonance and recovery of tubercle bacilli from the tissue or fluid, there have been proposed two new means of making the diagnosis:

I. The study of albumin present in sputum. This is recovered by filtering, boiling and adding acetic acid. It must be remembered that some albumins are not recognizable by the acetic acid test. The specimen of sputum must be collected from deep expectoration, and the technique as given in Hastings and Niles' Bacteriology of the Sputum, and by Kitasato, referred to by the first authors, should be rigorously adhered to. Other conditions than of tuberculosis may give sputum containing serum albumin, but the clinical picture will aid in the differential. It is true that early, minute hemorrhage will give this albuminous content. Of course, the occurrence of these capillary hemorrhages may be variable.

II. The Uro-reaction. A writer in the *Echo médical du nord*, Lille, recently says that the reaction of urine normally becomes alkaline within a short time of ejection. The uro-reaction depends upon a change which is greatly delayed, so that an interval of months may find the urine of a phthisical patient still acid. This has been made the subject of study since 1909. But any test which is necessarily dependent upon an interval of such length for its outcome will not afford the rapid clinical diagnosis desired.

Predisposition to Tuberculosis.

In a letter to the *Medical Record* recently Charles F. d'Artois Francis says that one cause of tuberculosis is lowered blood pressure and demineralization.

We have long known studies which show that in the tuberculous the heart may be congenitally small. This connotes a low blood pressure, if the body were normally large.

In France, for some time there have been studies of soil demineralization. There is an idea that will not down to the effect that the ground is being demineralized and especially in regard to lime and iron.

Whatever this may mean, Francis says that he has restored blood pressure to the normal by giving a mixture of the following salts:

Sodium chlorid, sodium carbonate, sodium phosphate, magnesium phosphate, potassium carbonate, dissolved and given in boiled water. He appends a list of temperature and blood pressure records. Clinical improvement was noted.

SPECIAL ARTICLE

DUODENAL ULCER.

This subject is increasing in importance. All the narrow region including the duodenum in its serpentine twelve inches, the orifice of the sinus of Vater, the common gall duct, the head of the pancreas and the pylorus, is now the cynosure of eyes surgical and medical. On one hand we see the question of obstruction of the secretory ducts, with the production of suppuration of the gall bladder, or of pancreatic irritation, and subsequent fatal diabetes, and the fight upon the time of surgical intervention in early cases to avoid fatal outcome; and on the other hand the matter of circulatory disturbance consecutive to appendicitis or portal vein difficulties engendering local necrosis in the tissue of the alimentary mucosa, and duodenal, pyloric or gastric ulcer.

In the *Journal des praticiens*, December 17, 1910, Achard describes the pain of a perforating duodenal ulcer. The case was detailed before the Soc. Méd. des Hôpitaux, and the report is by Fiessinger. Pain may be delayed and is to the right of the median line and near the gall bladder.

Klippel and Chabrol, in the *Paris Médical*, April 3, 1911, quote the work of Collin, *Thèse de Paris*, 1894. Létulle. *Presse médicale*, 1894; Dieulafoy, *Clinique méd. de l'Hôtel Dieu*, 1897, and Moynihan, 1910. Prior recognition is accorded to Bucquoy, *Arch. méd. de méd.*, Paris, 1887. Studying the special syndrome of duodenal ulcer characterized by hemorrhage from the pancreatico-duodenalis, by icterus and pancreatitis, Klippel and Chabrol comment upon the relative frequency of this syndrome, namely, 16 among 242 observations at hand, the present lesion discussed concerning the second or descending portion of the duodenum, and not the first or horizontal, in which the majority of ulcers (relative to pyloric changes) occur. Twelve cases of rupture of the pancreatic vessels and three of the gastric epiploic are given.

Icterus may be of the catarrhal type. It is of sudden onset and announced by a chill, elevation of temperature, diarrhea and enlargement of the spleen. A yellow discoloration of the skin supervenes, but may prove transitory. Cyclic abdominal pains and urinary crises are added. Later, melena and its repetition will tell the clinician that an intestinal hemorrhage has occurred. Foerster, Dittrich, Krauss and Herzfelder report cases simulating cancer of the pancreas, all confirmed by autopsy. (This confirmation is of a sad kind. Better do so on the operating table with what Deaver calls the "pathology of the living.") Peyrot reports an amazing case, operated upon, only to find a mass that was thought cancerous and fatal. The wound was closed and the patient returned well in six months, saying, "but I vomit all I eat." Stenosis of the pylorus was suspected. In a second operation ulcer of the duodenum showed plainly, and the mass of previous note had disappeared. Recovery was complete. Mathieu, *Soc. Méd. des Hôpitaux*, December 2, 1910, gives a cytologic report upon a case of icterus due to duodenal ulcer. Suspecting a hemolytic icterus with splenomegaly it was found that the reds had attained an increased resistive power.

Pancreatitis supervenes upon these cases of ulcer, if untreated. With the onset of glycosuria and diabetes, cure becomes distant or impossible.

Ratherly, in the *Journal des praticiens*, April 29, 1911, speaks freely of the differing types of diabetes and of their causation. Slocker, in the *Rev. de Méd. Chirurgia Pract.*, March 14, 1911, speaks of the extirpation of a cyst of the liver following an abdominal injury. Braunschweig reports in the *Med. Klin.*, January 22, 1911, a case of fatal icterus, due to syphilitic invasion, which gave obscure intestinal and abdominal symp-

toms. Loeper summarizes literature upon pancreatic and biliary conditions in the *Progrès Médical*, May 13, 1911, and Mathieu, in the *Paris Médical*, June 3, 1911, considers at length ulcer of the duodenum. He shows that Bucquoy, in 1887, thought duodenal ulcer similar to gastric ulcer (we think that certain gastric derivatives are responsible for duodenal ulcer, passing over the duodenal mucosa and injuring it). Létulle and Collin, in 1894, agreed with him.

The Mayos in the United States, Mayo-Robson and Moynihan in England posit not alone the frequency but the facility of diagnosing duodenal ulcer, differing diametrically from the view of Bucquoy and his school. The Mayo brothers found in 193 cases of ulcer that 119 were of the duodenum and 14 gastric. Codman, of Boston, gives duodenal ulcer the rank of three to one of gastric localization.

Moynihan (Duodenal Ulcer, 1910,) says that among 100 cases of ulcer diagnosed there will be upward of 95 cases situated in the duodenum.

Mathieu contrasts the views of the Anglo-American and the French authors thus sharply to show that we must not regard the question as definitely settled in favor of the diagnostic probability of localization, and continues his paper with the "schematic baldness" of the symptom-complex: the appetite is preserved. However, three or four hours after a meal there is experienced a pain more or less severe in a cramp-like seizure, which is quieted by ingestion of food, the relief being distinguished by the rapidity of sequence upon eating, and conferring the term "hunger" pain upon the distress experienced. These crises lead forward through paroxysmal attacks lasting several days and renew themselves at more or less differentiated intervals. The tendency to return and to "festinate" in periods is characteristic.

The vomiting, the hematemesis, the melena, which occur later, may, according to Mathieu, be looked on rather as complications than pathognomonic symptoms. We find, commonly, a hyperchlorhydria. Physical examination of the patient, he says, is negative. This, in brief, is the attitude attributed to us. The symptoms enumerated by Bucquoy and the French school, including the complicating symptoms of the Anglo-American school, are: (1), intestinal hemorrhage, hematemesis and melena together; (2), pain to the right of the median line caudad to the liver; (3), the absence of all gastric symptoms, except that the appetite, lost in the periods of attack, returns with ease and promptitude. We see, therefore, that a group of observers depending upon this complex will recognize with less facility a condition not always marked by the occurrence of the entire syndrome.

Developing Létulle's ideas, Mathieu considers the etiology. Riegel's theory of hypersecretion due to nervous abnormalities flowers in the notion advanced by Reichmann, of morning hyperchlorhydria. He, however, reports pyloric stenoses and his cases are associated with juxta-pyloric ulceration, gastric or duodenal.

The school of Regal subordinated this pyloric influence to a spasmodic one, and ignored to a degree the notion of hypersecretion. Already in Germany Boas and Schreiber had shown that stasis is the chief cause of hypersecretion in the syndrome of gastric retention, when Hayem, in May, 1897, before the Paris Academy of Medicine, described as the cause of pyloric stenosis a condition practically that of duodenal ulcer.

Mathieu, however, shifts the discussion in stating that the American view of duodenal ulcer is that of the French juxta-pyloric ulcer, and that true duodenal ulcer, occurring lower

is more rare, and is difficult to diagnose, as we have seen in the first place.

The pyloric vein is used to divide the pyloric from the gastric region, says Moynihan, speaking for the Anglo-American view, and this vein traverses the region of the pylorus on the stomach side. This question is to be studied at length, and Mathieu devoted a thousand words to its development, concluding that the French are right in denominating duodenal ulcer only that occurring lower than the Anglo-American school have established. The true form is characterized by various pain syndromes, by hemorrhage, by hyperchlorhydria, and without gastric dilatation, as well as by integrity of the pylorus (thus including as pyloric those cases of juxta-pyloric ulcer or so-called duodenal ulcer of the first type).

We find cases of icterus in which the differential diagnosis concerns biliary lithiasis, which gives a pain not relieved by alkaline remedies. Exploratory incision may be needed.

Medical treatment becomes difficult, even unwise. But the best therapeutics is for the future to decide, says Mathieu.

Russell S. Fowler, of Brooklyn, gives the statistics of 90% of cases of duodenal ulcer as occurring in the first part (horizontal or pyloric) section of the duodenum, coming over to the view of the French school, but he agrees with Perry and Shaw, Oppenheim and Collin (*vide supra*) that the majority of these occur on the anterior aspect, and, as shown by Moynihan, it is this portion of the intestinal mucosa which receives the jet of chyme. What value has the procedure of posterior gastro-enterostomy?

Fowler states plainly and with a sense of the practical values of the surgeon's task, that not posterior gastro-enterostomy alone is indicated, but the infolding of the ulcer and consequent narrowing of the duodenal lumen. It is refreshing to find the exact technic so clearly described. Commonly, papers leave to the imagination the exact process of operating and give merely the object and the termination of the surgeon's task. Fowler shows that in a majority of Moynihan's cases infolding has been practiced, and that unless this is done the operative procedure becomes illogical. Fowler says it is positively true that unless the pyloric function is abolished, food will continue to pass through and be projected upon the diseased area of the duodenum. Fowler goes on to declare that in 1910 in one coroner's district in New York City among 160 autopsies upon cases of sudden death, 5 per cent (8 cases) were found to be perforated duodenal ulcer. Fowler regards this disease as frequent and dangerous. He says that the tendency of duodenal ulcer to carcinomatous retrogression is rare, while that of the gastric type is ready, (*International Journal of Surgery*, April, 1911; *N. Y. State Journal of Medicine*, July, 1911). We see that the pyloric and the gastric type, as well as the juxta-pyloric type, are similar in their liability to lay down a cancer nidus; while the lower duodenal ulcer, rarer and less readily diagnosed, has not shown a carcinomatous inclination.

D. P. D. Wilkie, of Edinburgh, May, 1911, speaks of retrograde embolism as a source of duodenal ulcer, as well as of acute gastric ulcer; emboli from veins in the omentum may, under certain circumstances, be carried up gastric veins and become impacted in the venous plexus of the submucous coat of the stomach, and determine thereby a gastric ulcer. This differs from the maceration theory. It is thought that the hematemeses sometimes met in appendicitis may be due to an acute gastric ulcer caused by blockage of a gastric vein by a septic embolus from a thrombosed omental vein. Portal embolus is possibly causative of acute pancreatitis.

George E. Pfahler, of Philadelphia, *J. A. M. A.*, June 17, 1911, speaks of gastric and duodenal adhesions in the gall-bladder region, and their diagnosis by the Roentgen ray (*Am. Journal of Surgery*, July, 1911). A bismuth subcarbonate mixture, one ounce to a glass of butter-milk, is observed through the fluoroscope. The ingested mixture passes more slowly to

the right of the median line, and directly above the umbilicus; while, normally, this should drop quickly to the lower pole.

L. J. Hammond, *Pennsylvania Med. Journ.*, October, 1911, reports six cases of perforating duodenal ulcer, and shows the etiology of duodenal ulcer to be concerned with impairment of the pyloric action and gastric drainage. (What does this have to do with the hypothesis of further impairment of pyloric function in the operation of gastro-enterostomy?) He adds the study of fourteen chronic duodenal ulcers. Eight cases of gastric ulcer are differentiated.

Gouraud and Paillard in the *Progres Medical*, consider the question of gastric function. This is dual, as a muscle and as a gland. Both the digestion and the motive power require study and care. An exhaustive analysis of the physiologic ground of both activities is carried out. We have seen the early views of duodenal ulcer at first shrouded in the mist of differential diagnosis and developing the standpoint in France of hesitant decision, while in America, diagnosis was readily made; later, the division of gastric and pyloric ulcer, of juxta-pyloric ulcer (French authors) equalling the duodenal ulcer of the first type, and of ulcer of the second portion of the duodenum (difficult to diagnose, and rare? but distinct), constituting the true duodenal ulcer (French authors) or ulcer of the second type (American). Upon a morphologic differential the pyloric vein is considered a dividing line, although it causes a gastro-pyloric ulcer to be diagnosed as duodenal. Upon a purely surgical basis, this pyloro-duodenal ulcer assumes a significance less duodenal than stenosing. The quality distinguishing duodenal ulcer (of the second type) is the tendency to icterus and to more rarity of recognition.

Mayo, Fowler, Deaver and others say that operation is safe, and is the only way to avoid sudden death or serious danger short of death.

The etiology of duodenal ulcer—the study of its cause, and prevention *per se*—is regarded as doubtfully established, possibly as due to a change in the chyme, to the jet of which issuing from the stomach some irritating effect may be due and the opposite wall of the duodenum suffers. Some change in the portal circulation may be found antecedent.

A New Electro Magnet.

An electro magnet for the use of oculists has been designed by Dr. Haab, director of the ophthalmological clinic in Zurich. It develops great tractive force, is placed horizontally and its circuit is made and broken by the operation of a pedal. The working pole is a cone of 90 degrees and this end of the coil is tapered sufficiently to give the operator a clear view of the field up to the tip of the magnet pole. In tractive power at a distance of 1.2 inches it exerts a pull more than twice as strong as that of the largest Volkman magnet. This apparatus, although designed primarily for the use of oculists, is admirably well adapted for the extraction of iron filings and splinters, hammer-scale, etc., from wounds in any part of the body. Hence it may advantageously be installed in the hospital rooms of all large mining and metallurgical establishments. Experience shows that the magnets now employed in these rooms are used as often on hands and arms as on eyes.

Five Ambulances in One.

The latest in the ambulance world is the removable lining. A Buffalo hospital superintendent has devised metal linings which fit the interior of the vehicle snugly. He has five, one each for diphtheria, smallpox, scarlet fever, measles and suspected cases. These linings are stored in separate metal airtight compartments built on a semi-circular platform at the edge of the garage turntable. The linings can either be disinfected in the ambulance, as all openings are made to shut tight, or they can be removed from the vehicle and scrubbed. The linings can be changed in five minutes, so that one ambulance can be made to answer for five.

TREATMENT

CONGESTIVE ATTACKS IN BABIES ABORTED.

About fifteen years ago we read a physician's note saying, "When you prescribe calomel for children, add a minute portion of acetanilid—you will be surprised at the excellent effect." Not only calomel and acetanilid, in congestive conditions (as threatened pneumonia, capillary bronchitis and meningitis), but ipecac and bicarbonate of soda will, if properly proportioned, give the happy effect of aborting the morbid process, lowering the temperature and relieving the malaise. A formula is as follows:

Calomel	0.075 gm.
Acetanilid	0.100 gm.
Sodium bicarbonate	0.500 gm.
Pulverized ipecac	0.010 gm.
Milk sugar	0.500 gm.

Mix and make eight powders.

Sig. One every half hour; followed by a seidlitz powder.

To this treatment the addition of a hot footbath containing sinapis (our homely, friendly mustard) should be adjoined. Those who use poultices of mustard and hot pedaluvia sharpened by its counter-irritating and stimulant virtues will readily concur in the happy effects noted. Called to see a child suffering with capillary bronchitis and symptoms of pulmonary congestion, the use of a calomel purge and counter-irritation should be followed up by syrup of squills, syrup of ipecac and brown mixture for a few doses, when a second set of powders containing salol, acetanilid and sodium bicarbonate may be given. If the temperature resists this treatment and congestion is so far advanced as to render it unlikely that counter-irritation will subdue it, the exhibition of cold may be tried.

In using acetanilid, smallest doses are to be chosen. These doses should be minute and divided. Many acute colds in children are influenzal. Therefore salol and acetanilid, sodium bicarbonate and ipecac will constitute the "big four" of therapeutic efficiency. As follows:

Salol	0.50 gm.
Acetanilid	0.10 gm.
Pulverized ipecac	0.10 gm.
Sodium bicarb.	0.50 gm.
Sacchar. lactis	0.50 gm.

Mix and make eight powders.

Signa: One on the tongue and followed by a drink of water or milk; every hour.

A repeated use of the poultices of mustard should be made and with confidence. To make a good mustard plaster a measure of judgment is required. The skin of the patient is not sacred; we do not care to burn off his cuticle, but between life without a skin and death or a bad attack of pneumonia with it, the former is to be chosen. Mix a mustard poultice in a bowl. Take flour and mustard in equal parts, and stir, adding hot water. When a paste is formed, thick and rich in consistency, add some plain molasses, which is better than syrup, unless the syrup is all that is at hand. In a hurry one may employ sugar. The white of an egg also is a variant, for the purpose of preventing severe burn of skin by the counter-irritation. But the use of table molasses will accomplish as much or more than the white of egg. See that the cloth upon which this paste is to be spread is of loosely-woven material—a piece of salt-bag or of flour-bag will suffice and either may be at hand. Apply the poultice quickly and while the heat from the admixture of hot water remains. This usually is left on the skin for fifteen or twenty minutes and is to be watched, for fear of susceptibility to blister. If well, it may be left on longer, and a vigorous counter-irritation is best.

The old-fashioned pedaluvium, hot water containing mustard, is adjoined. Use hot water, not a wishy-washy, luke-warm bath that only chills. To the water sprinkle mustard. Use

real sinapis. Try the bath with your elbow, for your hand has more resistency to the heat than the skin of your baby-patient.

Let the feet of the baby rest in this for sufficient time to redden. Dry them thoroughly and roll the baby in a blanket to prevent chill.

Many an acute congestive attack may be aborted in this fashion.

PYORRHEA ALVEOLARIS.

Recent work inclines toward the use of vaccines from cultures, which are taken as etiologic to purulent local difficulties. If this local condition could not arise unless some antecedent dyscrasia existed, the application of a vaccine would be merely adjuvant, especially if the local infection were a mixed one, or a secondary, and not identical with the primary or constitutional infection. Magitot, writing in the *Journal des praticiens*, June 10, 1911, says plainly that we are dealing with both a local and a general disturbance. He gives as the first indication the employment of chromic acid. This is used upon little pledgets of cotton applied with short wooden sticks. A profound reaction follows even the weakest solution. The neck of the tooth, below the cementum, and the gingival surfaces are stimulated. A sharp pain may be experienced from even weak applications. Adjunct treatment by chlorate of potassium internally is Magitot's rule; a lozenge of 25 centigrams of potassium chlorate six to eight times a day.

In a treatise on stomatology by Nogué and Dauguet (1911), p. 29, we note that internal administration of chlorate of potassium is apt to enervate the patient (it is causative of methemoglobinemia). Instead, the salt should be used in local applications of the crystals of potassium chlorate and borate of sodium, equal parts.

Frequent rubbing with sections of orange, citron or lemon peel will afford agreeable stimulation. The tincture of cochlearia (scurvy grass) is suggested. (Can this be a reminiscence of the doctrine of signatures?)

Local treatment during the inflammatory stage will consist at times of scarification, or curettage, on account of the waste products whose accumulation disorders the proper metabolism. "Tartar" masses must be removed, and kept away. Tests should be made for glycosuria or albuminuria, transient or organic, and the causes, if present, ascertained.

Other authorities advise sulfonic acid, instead of chromic acid treatments, and the colloid silvers are very helpful. Always protect the normal adjacent surfaces by cotton pledgets in giving treatments. Dry up the cul-de-sac in the gingival membrane before applying the acid solution, endeavoring to remove every particle of "tartar." The double salt of bifluorid of ammonium is recommended as a variant application. The advantage of this is that the dentine and enamel do not suffer although all "tar" accumulations are scaled off. Peroxid of hydrogen injected with a syringe with a fine, blunt orifice, will suffice to cleanse the pockets in the retracted gingival surface.

Colyer has long experimented with Bier's method of passive hyperemia and finds it "leaves much to be desired."

Electricity and high frequency currents have been tried out. Faithful persistence has demonstrated that these therapeutic agencies are not to be relied upon. Local pastes or creams, such as one of subnitrate of bismuth, with yellow petroleum jelly, white wax and paraffin, may be injected into the cul-de-sacs. Each channel must be cleansed every day or two, until the purulent discharge becomes sero-mucous. Massage of the gums daily, by manual or mechanical means; the use of a

medium brush and mouth washes of a phenol base must be employed adjutantly. The ceaseless following of these precautionary methods must be enjoined.

Teeth spring from the body surface as appendages, and like the hair shafts, they are projected as foreign bodies would be if introduced, becoming actually foreign bodies to all intents the moment that alterations from the normal occur. A tooth in dying becomes an irritant. A hair shaft deprived of oil is a foreign body, and acts to create a vicious circle in the ectodermic metabolism. Any change in the nutrition of teeth must be studied and treated if the conditions in alveolar disease are to be remedied.

SURGERY VS. BROMIDES IN THE TREATMENT OF EPILEPSY.

The perennial joy of studies in epilepsy is derived from the antiquity of the subject as well as from the infinite, the indefinite, variety of any possible conclusions as to etiology. With Donath's prize-winning essay for cholin investigation, only one aspect has been touched, and that a side-phase of the give-and-take of organic exchange incident to the seizure—even if Donath's position is tenable. A good deal of speculation is wasted because of our ignorance of the mechanism of the convulsion. To which or what motor tracts must we look for this initiatory stimulus? The question of the mechanism of the attention, which falls into abeyance or is tonically convulsed, must be found out primarily. It cannot be held that the cortical centers form more than one link, though an important one, in the chain of structures involved.

The use of bromide of potash dates back to Locock who on May 16, 1857, before the Royal Society of Medicine and Surgery in London first signalized its application. According to Engelraus, whose historical study in the *Echo médical du nord*, Lille, 1911, goes fully into the consideration of bromide therapy, we must attribute this drug's use to an idea—false, he says—that epilepsy is due to a genital reflex. Otto Garf and Huette recommended in the early nineteenth century anaphrodisiac treatment. The epileptic seizure is likened to the sexual spasm, whether in causation or mechanism, it cannot be shown. Bromin was discovered in 1829 by Balard, and the salt of potash in the same year, so recent therefore is the employment of a treatment almost classic in its universality. And curious as this may seem, even more recent is the recognition of the honor of the discovery of its application, for the *Lancet*, on the death of Locock in 1875, mentioned his birth in 1799 and graduation at Edinburgh in 1821, and the fact that he was a gynecologist and obstetrician and wrote articles for the *Cyclopedia of Medicine* (but nothing of his recognition of the value of bromides in epilepsy). The *Gazette hebdomadaire*, as late as 1867, smiles upon the advocates of this treatment and remarks with surprise at the use of quantities of bromide amounting to fourteen grams per diem. The *Gazette* evidently regarded bromide as *tres chic* or *tres faddish* at that date. Bromide in one of its salts was recommended as an anesthetic by Rames in 1859. Ramskill, Radcliffe, Hughlings Jackson and Brown-Sequard soon seized upon this treatment. From 1863 to 1866 it became generalized.

At the French Congress of Medicine, October, 1910, A. Souques advised trephining in symptomatic epilepsy. He asserts baldly that idiopathic epilepsy is symptomatic in all cases if we only could arrive at the point of origin of the reflex. Therefore, open over the motor region at whatever may seem the point of election. Use the technique of Kocher for incision of the dura mater, because this permits us to explore the cerebral hemisphere. In cases of traumatic epilepsy we are then able to remove by excision the epileptogenous centers. In many cases, Souques says, we can produce "veritable resurrections." When we are dealing with an idiopathic case in which absolutely no symptomatic indications are discoverable, what are we to do? The editor of the *Journal des praticiens*, October

29, 1910, commenting on Souques' address, reverts to his statement that essential or idiopathic epilepsy is a serious disease which leads to dementia or death. After such a conclusion, adds the editorial commentator, what surprise can we feel in hearing Souques define essential cases of epilepsy as surgical ones!

Souques recalls Rinne's case, in Germany, concerning relief of a congenital example. This isolated case, continues Souques, is a noteworthy one. But such clinical reports are not sufficient. On the other hand, the studies of Kotzenberg, Auerbach, Kuemmel and Friedrich are important and numerous. They show that surgical intervention is safe and is truly productive of results. Nevertheless, we should reserve operative measures for severe and obstinate cases, until further studies multiply.

A. Sicard is dissatisfied with the surgery of epileptics, remarking that second operation has been common. A paralytic syndrome may supervene, adding its quota to the suffering of the unhappy patient. Claude, speaking of the confusion of cases of cerebral tumor with cases of partial epilepsies, advises intervention in the latter more especially than in essential cases.

He writes in the *Journal des Praticiens*, May 25, 1911, giving his views and reporting three cases of epilepsy. In the first he advised mercurial treatment associated with bromides. Vision was weakened and there was optic atrophy with symptoms of cranial compression; there was an intellectual weakening and indications of meningo-encephalitis and sclerosis dating from infancy were present in the patient, a young girl. Intestinal disinfection and thyroid and ovarian extracts and even that of the hypophysis cerebri are among the first indications in such a case. This adjuvant treatment is very compatible with and materially enhances bromide therapy, asserts Claude. In the case of a girl of eight years, upon whom a decompressing operation was done and with great benefit, he proposed a second operation to open the meninges to relieve adhesences upon which depend the residual seizures. This is a grave surgical procedure, but justifiable in certain instances. A third case improved under operation, but less remarkably, although the intellectual level seemed definitely elevated.

After decompression the effect upon bromide therapy is to enable a diminished dose to exert an augmented influence, according to Claude.

Whatever epilepsy is due to, the symptoms of a major attack are disturbances of the power of attention, and separation of the superior from the inferior nervous centers. Decapitate a chicken, and we observe epileptic tonic and clonic convulsions of the body, dilatation of the pupil, and if heat or cold is applied to the severed spinal cord for stimulant effect, or upon tickling the feet or stretching the wings, there are renewed convulsions.

Cerebral compression may, therefore, act to compress some mechanism at the base of the brain, or the basal ganglia. This would occur upon the supervention of vaso-motor spasm, or circulatory disturbance, and any persistent stimulus would act rhythmically, or at periods of increment according to physiologic law. We have to solve the questions of: 1, the mechanism of attention, and 2, the nature of a nerve impulse. In this, the *post hoc propter hoc* reasoning may prove fallacious. Cholesterin, cholin, and other middle products of metabolism can, at most, signify only an interruption or excess (reduplication, as weakening of cardiac impulse may) in some chain of physio-chemic processes.

The surgical relief of epilepsy, therefore, assumes a crude aspect, in touching, *en masse*, the delicate apparatus of the centers of the nervous system. However, if further cases coincide in favorable results, the operation of decompression in severe cases of grand mal may become a source of great value. The increase of ease and the safety of brain surgery may render this justifiable, although at present the case should not be hurried to the table.

SCIENTIFIC NOTES

CHARLES EUCHARISTE DE MEDICI SAJOUS.

In the Librarian's catalogue by authors, between Giovanni Saiz (Untersuchungen ueber die aetiology der Manie, der periodischen Manie, und die zirkulaeren Irreseins, nebst Besprechung einzelner Krankheitssymptome) and Ikutaro Sakamoto (Ueber zwei Faelle von Weil'scher Krankheit) we find the writings of one, Sajous.

Here is the work of an original and inquiring mind, viewing from a new standpoint the principles of the natural sciences, especially of physiology.

Writing in 1909, on True versus False Opothrapy, he says that the adrenal secretion has been shown by Otto and Schaefer to raise blood pressure and to destroy poisons; the thyroid secretion is known to promote growth and development and also to destroy poisons; the pituitary body causes acromegaly and adds some (as yet) undetermined influence to metabolism. The pancreas adds some internal secretion, but other organs in general may be denied possession of any such faculty, continues the theory of Sajous, except that the ovary, testis, kidney, and other tissues generally, contain the adrenal principle to some extent and to this owe much of their value as opootherapeutic agents, and form a link in the chromaffine system.

This adrenal principle is not destroyed by boiling. Depressor effects are due to over-dosage.

The derivatives or constituents of this thyroid-pituitary-adrenal system of chromaffine potentiality are further stated by Sajous to contain or confer an immunizing property by virtue of a proteid-iodin compound. We know the forceful antiseptis of iodoform. He impresses upon us that the relations of this iodine are such as to raise the strength and amount of opsonins in the blood-vascular current. Deprivation of this will cause convulsions and unconsciousness (see his paper on epilepsy) because of involvement of the carotid (sympathetic) plexus and the pituitary. The pituitary, he adds, controls response to stimulus when even the hemispheres and optic thalami and cerebellum are ablated. Depression of the pituitary, on the contrary, gives physical depression and subdued oxygenation. The four-fold action of this general system of chromaffine agencies is seen in effects upon: 1, blood plasma; 2, alexins; 3, trypsin; and 4, oxidizing substances.

Such is a theory as it relates to antitoxins and immunity.

While we have familiarized ourselves with the chemistry of bacteria (nucleoprotein tissues) bacteriolysins, (antibody and complement) with receptors and their physiological properties, to the extent of knowing how hemolysis occurs, or rather, under what conditions it may be educed, we have yet to study the machinery which, within the body, parallels the apparatus of the laboratory.

Sajous endeavors to show us this mechanism, at least in part. Has he done so?

With a rapier-like thrust he cuts into and even through the Gordian knot, but it remains unsevered. In the elaboration, within the body, the plasma elements are derived from serous elements, chiefly the endothelial cavities; the cellular elements from endothelium, or at least mesodermic elements. He is looking to the epithelial system in studying the thyroid and the pituitary, the latter from pharyngeal and nervous tissue, the former from epithelium derived from the branchial clefts.

Good anatomist, aid us! How can we study function unless we appeal to the site and structures in which reside these magical potencies? Is not the answer to be found in the development of faculties from mesodermic or from ectodermic tissue? This, in effect, he accepts, if he explains the relations of the chromaffine system to the development of opsonin.

The chromaffine system is to immunity what the telephone

is to the social world—a means of intercommunication. But, we may ask, how is this inter-communication effected? The study of hormones together with the activation by the enterokinase may afford a parallel. We have been told that renal ablation is productive of a diminution of hydrochloric secretion in the stomach. So, in Bright's disease, we find flatulency. Is this change the result of a nervous stimulus, whatever that may be, or is there an actual discharge of proteid bodies laden with some powers, chemical, enzymatic, or electrical?

Students are analyzing these elements. Has Sajous attacked the problem from the standpoint of the control of their biogenesis?

If so, it would be the nervous element which conveys impulse, and the glandular element which discharges substances. These substances would consist of a body so formed as to attach and release certain other bodies conveying them to suitable stations. These substances would, of necessity, connect the life-history of mesoblast and epiblast. So that the mesoblast in its function would reversely initiate impulses by stimulus of nerve-endings. The theory of diabetes is that of super-oxidation, Sajous suggests, and adds that cutting the splanchnic and the vertebral nerves causes hepatic changes and prevents even experimental glycosuria. The action of trypsin upon cancer and upon local infection may be due to its proteid digesting action upon antigenous elements. This he has not developed further.

We must recognize that no chemical analysis of blood or of heart muscle would disclose the motivating function of that organ as a pump. So, equally, some mechanical or dynamometric study of the machinery of the body must supplement the studies of cell and plasma. We have learned that fats and oils emulsify and saponify; that proteid peptonizes—by what method? The statement that they do is a beginning, and an end, without a middle, even as the nature of diabetes is yet not unraveled.

Sajous has not added any mechanical theory to our storehouse. He has written only to show the philosophical chasm which remains to be bridged—has he, in so doing, a-bridged?

Annual Meeting of Scientists.

The 63d meeting of the American Association for the Advancement of Science was held in Washington December 27-30. Among the affiliated societies are the Society of American Bacteriologists, American Microscopical Society, American Physiological Society and American Psychological Association.

Since the first meeting of the American Association in 1848, great changes have taken place in the condition of science in this country, in which the association has been an important factor. Sixty years ago all the scientific men in the country could meet in one room. There are now some ten thousand scientific men engaged in special problems, which in many cases are comprehensible only to other specialists in the same field.

It was not until 1875 that the association was divided into two sections—one for mathematics, physics and chemistry and one for the natural sciences. In 1882 nine sections were organized. But provision was needed for still greater specialization, and at about the same time national societies began to be established for the different sciences. The American Chemical Society, for example, was organized in 1876, and there are now some thirty societies devoted to different departments of science.

These special societies have to a considerable extent taken over one of the principal functions of the American Association, namely, the presentation and discussion of scientific work.

THE EDITORS' TABLE IN DECEMBER MEDICINE.

Among the many topics brought up editorially in the medical journals for December the following are of interest:

1. The *Medical Record* take up the cancer-cell theory of Butlin. This is a reversion to the parasitic theory of cancer, and it is assumed to mean that from some cellular element in the body there is formed a cell that rebels and becomes antagonistic to the normal tissue, living upon it and devastating the organism. The *Medical Record* comments upon it and explains that the mere fact that cancer cells can be grown outside the parent body does prove the Butlin hypothesis. The *Record* says that normal tissue can be so grown, and this it thinks disproves the theory, for the parasitic cell has not acquired an independent faculty. We do not agree. If the cancer cell can grow outside the body, it seems that a normal cell might do so too. It is not in this separate growth that parasitism is demonstrable. But this power might be a means to an end, and would not run counter to the display of parasitism. If we might add a point, it seems that parasitism depends upon the change of relation between tissue elements so that each or any element loses that power which makes for parenchymatogeny. This must be a function of the cell-wall, and is probably concerned with the axis of karyorexis. Normal tissue will not grow with equal force at all axes. Even in the plastrum this is shown, and an axis laid down.

2. The hygiene of the Panama Canal Zone awakes some comment.

3. The Army medical department is spoken of as important to the efficiency of the service.

4. Robert Louis Stevenson is dissected and his weird imagination is traced to the circulation of tuberculous toxins in his blood.

5. The Report of the Surgeon-General of the United States of America receives notice.

6. Sunstroke. (A warning December thought.)

7. The horse versus the automobile. We may believe that the editor of the *Medical Record* is correct in giving the palm to the machine. Long and severe strain do not produce illness, and no urging can hurt a tired machine whose feelings are expressed in terms of amperes and gasoline.

1. The *Journal of the American Medical Association* examines a new method of agglutination due to free hydrogen ions in solution. We presume that these are both negative and positive ions. Hydrogen has some of both, although in the nascent state they are chiefly negative, contrary to the form they take in chemical combination.

2. In rectal feeding we are warned that the proteid content is rarely absorbable.

3. Carbohydrate metabolism and the action of the hypophysis cerebri recall the studies of Sajous. The editor agrees that increase of hypophyseal values will cause acromegaly and glycosuria. The posterior part of the hypophysis is responsible. In diminished action of this portion, no glycosuria.

4. The Roentgen ray may cause leukemia. Does this act upon the tissue which forms the phagocytes?

1. The *New York Medical Journal* goes over the subject of diphtheria carriers. As we know, many healthy persons have the Klebs-Loeffler bacilli in their oral secretions.

2. The *New York Herald* has chosen Professor James Walsh of Fordham to supervise all medical items occurring in its columns. This is a very sensible proceeding on the part of a lay journal, and the editor of the *New York Medical Journal* says so.

3. Madame Curie has been made the recipient of two Nobel prizes. Her eminent work makes this a source of pleasure above all jealousy.

4. The physiological standardization of drugs has become very important. The difficulties of this led a southern drug firm to employ experts to calculate upon guinea-pigs the exact strength of dosage per gram. A skill of some magnitude is required to create such standards and maintain them, especially with drugs that tend to alter their powers with age.

This constitutes the chief range of editorial matter before us. Medicine is not active, it seems, although many problems are in the making.

The *Weekly Roster*, Philadelphia, records the formation by Governor Tener of a vaccination commission. We know Dr. Schamberg and Mr. Porter F. Cope. The latter is pronouncedly against vaccination, the former is one of the most learned authorities in this country upon it. It seems that the commission, of seven, is to report in 1913 upon all the phases of vaccination and to consider the formation of vaccines and the history, value and object of the practice. Here again is the cloven-hoof. Can we never settle this question? Undoubtedly we have attained immunity from the fearsome pest through, and only through, the employment of vaccines. Typhoid is to be similarly guarded against. It is not possible to say how far the vaccine treatment may prove efficacious. But we have solved the micro-chemistry of the changes in the blood in immunity it will be wise to do vaccination when we can. Let us await the report of this commission. We hope that Mr. Cope may not come in contact with the virus of the disease he is studying, unless he allows Dr. Schamberg to clothe him in the armor of salvation, in plain words, to vaccinate him. The *Roster* says that the dispensary evil needs abating. The *Roster* further says that lodge practice is reprehensible.

One of the best registers of any county activities in this United States is the small folder called *The Weekly Roster*, of which Dr. A. B. Hirsh is editor. It publishes notices of all medical meetings occurring in the county.

UNDER THE STUDY-LAMP.

The Psychology of Smells.

In the *MEDICAL TIMES* of March, 1909, and May, 1911, there appeared some matter bearing upon the relation of muscle-sense to words and to their psychomotor values. It seems that some common treasury of sensation is drawn upon by the mneme to translate and transmogrify our conceptions arising in the end-organs.

That speech and words carry over to the hearing and the psycho-auditory centers the values of motor images will, therefore, seem true and fundamental. For from the first memory of a word the motor value of its articulation will present itself. And color and smell will be associated with similar efforts of reception and recollection, transferring from one motor center to another the sensory correlations.

In the instance of smells what elementary relations may we find? The muscles of the chest and back are concerned in breathing, as in inhalations. But they move rhythmically and would not serve to distinguish more than the effort to register the quantity of a smell, even if they may do this.

Theosophists connected the special senses with the grades of existence, and with the bodies, or vehicles of these grades, and their parallel elements:

sight	ethereal
hearing	aerial
taste	aqueous
smell	earthy, terrestrial
touch	primary, or particular

These, then, concern states of aggregation, in the language of modern science. Such eastern adumbrations of science interest, as from a new standpoint. The discovery of radiant matter, and the statement of theosophists that we are developing a sixth sense, are also interesting.

Taking up the states of aggregation needed to effect special

sense perception, we see that a measure of volatilization and some moisture are demanded to the perception of smells, as well as of taste.

The olfactory tract is concerned with nerves of special sense and smell and is aided by those of common sensation, as by filaments of the fifth cranial nerve. The hippocampal gyrus associates the centers of sexual and olfactory sensation.

Tests made to determine what, if any, relation between smells may exist, gave tables of psychic values which suggest much, as follows:

asafoetida	lascivious
rose	plaintive
lily	holy
pepper	white or grey
vinegar	translucency
burnt sugar	rocky landscape

Now, we may ask, upon what psycho-physical mechanism may these associations depend? The mere mnemonic or accidental connection of *audition-colorée*, or of olfactory-emotionalization, cannot be accepted, for there are too many mechanical reasons for motor and sensory interrelations. Labials, dentals, and gutturals, we have in speech. What are the elementals operative in olfactory sensation? We classify sounds by pitch, and colors by scale. What working basis have we for smells? There are sweet and sour, sickening, nauseating, enervating, oily (kerosene-type), essential or aromatic, and irritating; but these terms correlate no series, to indicate changes in volume or intensity.

Even the manner of olfactory recognition remains a secret. If ethereal vibrations cause movements in the layer of rods and cones, and, according to Eldridge-Green, in the media, as color is perceived; and in hearing, if a membrane is made to vibrate; in taste we deal with surface tension as affected by osmosis, and the solution of its chemical continuity thereby. In smell the particles suspended in air must exert some effect similar to that of taste, rather than to those of sight or hearing, more especially since strong smells often cause a flow of mucus or sero-mucus. A general response of the fifth nerve may be more due to over-flow stimulation than to a reply differing in kind. In this event we might safely predicate a change in surface-tension in the perception of smell. Here is a field for interesting laboratory work.

What It Means to Have an Existence After Death.

This has been much considered of late, and a prominent scientist in a lecture at Columbia University took occasion to state that science could not affirm a belief, or foundation for belief, in immortality.

Dr. Nammack recently, in the *New York Medical Journal*, stated his belief that no studies in science are at variance with or antagonistic to religion.

The physician coming so frequently in contact with natural dissolution, must think upon this topic. He is often appealed to by young people for an opinion. He will find that the relatives of patients who have died ask him very pointed questions.

The researches of the Society of Psychical Research are directed toward the study of spiritistic phenomena. If such phenomena are true and not dishonest evidences, would they prove the continuation of the person after death? It does not seem so. To affirm that these adumbrations of personality are true continuations of life is to affirm that one's shadow is an integral part of the body. Even ghosts, as true or veracious appearances, do not prove immortality. These prove the existence of preternatural phenomena, and may prove the existence of ranges of phenomena outside our group of sensations. As such, they merely transfer the argument, for we may ask do these ghosts, apparent and phenomenal, belong to a passing and therefore mortal existence, as human bodies do?

Further, we must admit that the strongest argument for continued existence is found in the renewal and exchange

of the particles in any body, while the mind preserves its personal integrity, despite additions and ablations.

But in or through what vehicle can this personality continue after the body finally disintegrates?

Does it find a ghost-like or a spiritistic medium? Such cogitations are to be viewed as the evidence of longing for life, natural and part of the instinct for preservation.

Plato says that by association with a thing or scale of things, as with foulness or with beauty, we become part of the universal of which these form essentials, and so attain an immortality in them.

After all, the reality of the world cannot stand upon thin nothingness. Upon some basis it must find rest.

To say that immortality is not physiologic or material is not to say it is untrue but to say that it is of another rank of experiences. It is improper for a physiologist to make statements upon astronomy, ex cathedra. And upon the question of immortality it is true that he can speak only of the body. If the question of immortality is one of transference from body to body, as of dynamometric increments or of potential, it is of a sort of interstellar or astronomical physiology that he treats in speaking. This subject would imply a knowledge of facts scarcely now determinable. Certainly, no study of ghosts or of spirits apparent to the senses can aid us in this inquiry.

But physicians, as thoughtful men, must see that the problem affects them as students of the units out of which the equations are to be formulated.

The Nature of Chemical Affinity.

Sir Joseph J. Thomson, the eminent English physicist and Cavendish Professor at the University of Cambridge, has made a discovery which ushers in a new era in the history of chemistry. It is the revelation of the true nature of chemical affinity. By measurements of the deflection of positive rays in a vacuum tube containing traces of various substances, it is possible not only to identify the elements and compounds present, but at the same time to determine their atomic and molecular weight. Furthermore, since the rays are registered within less than a millionth of a second after their formation, if chemical action is going on in the tube, it is to be expected that the method should disclose transient forms of matter intermediate between two chemical compounds, and thus shed light on the true nature of the process of chemical combination. And experiment bears out this expectation. In a tube originally charged with marsh gas, Sir Joseph has detected products of molecular weight 12, 13, 14, 15 and 16, corresponding to molecules having one, two, three and four hydrogen atoms attached to the carbon atom. These represent the several intermediate stages in the formation of the complete marsh gas molecule, and we have here the first positive observation of such half-formed molecules.

Helium Tubes as Light Standards.

The Bureau of Standards has been experimenting with various gases, with a view to obtaining a vapor lamp which may be used as a light standard. The best gas was found to be helium, says the *Scientific American*. The light produced in the helium tube is a yellowish white, similar to that of the Hefner flame, and of carbon filament lamps. Other gases which seemed promising were sulphur dioxide and the like, but these were rejected as the light they emitted was too white. The helium tube shown by experiment to be best adapted for the purpose was 7 centimeters long, with a bore of 2 millimeters and a wall 2 millimeters thick. The tube was provided with terminal bulbs 35 millimeters in diameter, containing aluminum electrodes 25 millimeters in diameter. With this form of tube the density of the gas did not affect the light over a range of 3 to 8 millimeters pressure, and a practically constant light was emitted, even though the voltage and the frequency of the current varied considerably.

Current Orientation

ANAPHYLAXIS, OR THE THEOBALD SMITH PHENOMENON.

This condition was first noted by Theobald Smith, of Boston, in 1903, according to some authorities.

It was originally thought a trifle unfortunate, says the *Practitioner*, that the term anaphylaxis had been coined briefly to express the condition under consideration. It seemed to suggest some association with "prophylaxis," a term already familiar as expressing an anticipatory process whereby the organism is made resistant to the inroads of certain bacterial infections. Anaphylaxis has a much wider field of application, and has quite a different significance to prophylaxis. By anaphylaxis is meant the supersensitiveness of the organism to the introduction of foreign proteids, the route of introduction being parenteral, i.e., not by the mouth and digestive tract, but by intravenous and subcutaneous routes, and even, presumably, by means of serous surfaces which have no direct association with the digestive tract, i.e., the conjunctiva, or peritoneal cavity. It will be observed that the proteids capable of producing the result are "foreign" ones, i.e., proteids which are not the ones peculiar to the body of the animal into which such injection is made; it will also be seen that such proteids are not necessarily bacterial derivatives; they may be the proteids present in the serum of the blood of another animal, or those composing the organs of another animal, or those entering into the composition of vegetables other than bacteria; lastly, it is necessary to point out that anaphylaxis is concerned also in the immediate effects produced when such alien proteids are introduced: such effects are already well known, and have been spoken of as a group as "the serum disease," occurring in about 6.45 per cent. of all cases receiving serum injections. It applies, however, more particularly to the effects produced when subsequent doses are administered. The animal, by reason of the first introduction, displays certain changes when further injections are made. So far as symptomatology is concerned, the phenomena of the serum disease and of anaphylaxis may be very similar, but the effects must be kept separate, as the respective causes differ in certain features.

The fact that the parenteral introduction of proteids of bacterial origin can by repetition produce important phenomena cannot fail to prove of interest at a moment when vaccination for so many of the infective disorders which assail the respiratory tract has become a widely spread practice.

Commenting on this note of the *Practitioner* we may add that the parenteral mode is not the only way of entrance. Digestive anaphylactic changes are assuming constantly greater importance.

Owens, in *Northwest Medicine*, July, 1911, reviews the literature of this country, and gives a case of his own. It occurred in a man suffering from diphtheria who on a previous occasion had received a small immunizing dose of 6,000 units of antitoxin. The outcome of the injection caused Owens to pay more attention to the previous immunizing dose than he had before been inclined to do.

A violent rise of temperature, dyspnea, pallor and unconsciousness developed within a few hours. Thirty minims of ether, followed by 1/75 grain of atropin, were administered and with other measures effected a return of consciousness and a fall of temperature.

The students of anaphylaxis find there are two forms of the reaction:

1. *Immediate*. This causes quite a train of symptoms—erythema, urticaria, nausea, and, at times, loss of consciousness, or coma. There may be associated hyperpyrexia, adenitis,

joint pains, albuminuria, bloody stools, tenesmus, dyspnea, convulsions, and profound collapse. Even death may prove the immediate sequel to the injection of the serum.

2. The *accelerated* form (taken to mean delayed), occurs as late as the fifth day. The symptoms are those above detailed.

Adami says that the phenomenon occurs only when the initial dose is minute, and followed by a large dose; never when the first dose is of normal amount. Up to 1906 nineteen deaths occurred, given in the statistics of Rosenau and Anderson.

S. J. Meltzer points out that whooping cough and typhoid render the patient less susceptible, while erysipelas and possibly pneumonia increase the susceptibility. Writing in the *Journal of the A. M. A.*, September 17, 1910, he continues by saying that repeated doses of immunizing serum may render the patient supersusceptible instead of increasing his resistance (as prophylactic).

Persons subject to asthma, says Owens, should not receive horse serum injections. Rosenau and others record deaths in patients subject to hay-fever, and in people strongly affected by the odor of horses.

Hirshberg, of Johns Hopkins, considers the supersusceptibility of certain people toward shell-fish, berries, mushrooms or tomatoes. The tomato was long thought poisonous. It was grown as a flower, but not as a vegetable. Perhaps some persons eating it were in the category of those supersusceptible, and their morbid reaction created the unfavorable verdict under which the tomato for years had to languish.

Following the ingestion of the food toward which supersusceptibility exists we note attacks of urticarial rashes, sick headache, nausea, or vomiting. (What of ptomaine poisoning? Can it be a variant of anaphylactic symptoms and due to previous supersensitization, or to a temporary reduction of the alimentary function occasioned by anaphylaxis?) Hirshberg asks if the proteins of these disturbing elements have gained primary entrance through the respiratory tract, or by some previous alimentary ingestion. Such reactions, it is to be added, are specific, and a reaction to berries or to tomatoes does not imply one to eggs, shell-fish, or vice versa. Vaughan and Wheeler have established this principle among herbivorous animals.

Carnot, in the *Paris Médical*, May 13, 1911, speaks of alimentary anaphylaxis. The work of Besredka shows that normal individuals are not so endangered. Rosenau and Anderson, as well as Lesné and Dreyfus, show a toxicity to multiple albumins may be produced. Arthus does not believe that absolute specificity is truly existent, for an animal immunized to unfatted milk will respond to the introduction of egg-albumin.

Richet, Sr., in the *C. R. Soc. Biol.*, January 14, 1911, showed that crépitine, a poison, can produce exact anaphylactic phenomena.

Hydrochloric acid, says Slavu, in *C. R. Soc. Biol.*, 1910, possesses an attenuating power over digestive irritants toward anaphylaxis. Erepsin, an intestinal endoferment, and the epithelium lining the mucosa of the *prima viæ*, possess anti-anaphylactic powers of considerable magnitude. Barnathan, in *Thèse de Paris*, 1911, has shown that any digestive insufficiency is a marked cause of predisposition to anaphylaxis, having to do with a-chymia and a-chylia, or the diminution or loss of biliary elements or of entero-kinase.

Subcutaneous or intravenous injections (a la Bacilli) may cause similar anaphylactic accidents.

It was in 1902 that the elder Richet devised the term "anaphylaxy." The editor of the *Journal des Praticiens* does not

ascribe to Theobald Smith the honor of initial recognition of this condition, for Smith's discovery was in 1903, and, as usual, some difference will arise between French and German authorities, for Otto in the latter country looked across France and the Atlantic with hyperopic vision toward us and saw 1903, not 1902. This, by the way, and to digress, recalls Koch and the work of Pasteur with the bacillus tuberculosis.

Richet in his book, *Anaphylaxis* (Paris, 1911), declares that there are two elements in anaphylaxis: the primary dose, and a period of incubation between that and the second. To Rosenau and Anderson the editor of the *Journal des Practiciens* accords the honor of first establishing the fact of intestinal or digestive anaphylaxis. Schofield, Lesné, Castaigne and Gouraud give instances, all quoted in the editorial mentioned. Finkelstein has studied the action of milk, and his work has been mentioned in the studies of Castaigne and Gouraud. Hutinel has shown a case of intolerance toward milk. We might suggest that the difficulties of milk digestion in typhoid or other ailments may be similar to the conditions in anaphylaxis noted by Besredka (*vide supra*). Landouzy records a case of anaphylaxis from a single shrimp! Mussels are more commonly known as causative of this reaction.

Anaphylaxis is to be studied further in its direct chemical significance, and the studies of Wills should be followed.

The *Echo Medical du Nord*, April 2 and 30, 1911, claims priority for Richet (1902) in the recognition of anaphylaxis (*vide supra Journal des Practiciens*, March 18, 1911). It claims that the specificity of blood, human or animal, may be so determined and that the experimental studies in "anaphylaxis" may prove precious in legal medicine.

Shaw, of London, quotes a case in the *Practitioner*, December, 1911, of a servant girl who had been unable to work for two or three years on account of repeated attacks of asthma, which began five years ago. He says:

"She also suffers from nasal polypi, but though these have been removed and considerable relief has thus been given, such relief is not permanent, largely owing no doubt to the recurrence of the polypi. In each attack of asthma the patient suffered from the familiar clinical symptoms and signs, but she also says that during each attack she develops a diffuse erythematous rash on the trunk and limbs; fortunately she was able to show this rash on September 16th, when she came for further relief for another attack of asthma; it caused considerable itching and the rash took the form of annular erythema, each ring measuring about a third of an inch in diameter. As soon as the asthmatic attack was overcome by potassium iodide the rash disappeared. She has never had the rash except in her attacks of asthma; she never has an attack of asthma but the rash also appears. The rash is not due to any drug taken for the relief of asthma, for she had attacks of asthma and of the rash before she sought any medical relief."

Naturally the question will be asked whether the rash was not urticaria, but, so far as the literature shows, even if it were urticarial, such urticaria is known only *between* the attacks of asthma and not during the manifestation. So far as personal knowledge is concerned as to the nature of urticaria, it may be said that the rash was not urticarial, for there was no swelling of the skin at any time during the development of the rash. The case is interesting because it shows such parallelism with the manifestation of anaphylaxis, the rash recalling the erythema met with in the "serum disease," and familiar to anyone who has worked at the treatment of diphtheria by means of anti-diphtheritic serum. It will be understood that the "serum disease" differs from anaphylaxis mainly, if not entirely, in the fact of the existence of normal anaphylactotoxin in cases of "serum disease," and not at all in regard to the cause, which is the parenteral introduction of foreign proteid matter. The rash in this case cannot but awaken thoughts as to the explanation of the rash in acute specific diseases like measles, etc.

Persistent lymphedema (*Am. Jour. of Surg.*) of the breast may be the first, and for a long time the only sign of a scirrhus carcinoma.

RADIUM.

1. Treatment by radium is taken up in a long paper by Comas and Pio, of Barcelona, Spain. They devote an entire section of the October issue of *Annales d'Electrobiologie et de Radiologie* (1911) to the unfolding of their conception of technique in treating neoplasms by this means. The several forms of radium are considered, and the methods of standardization. As we shall see further down in a review of a series of studies by Madame Curie, it is needful to decide what rays are to be chosen, alpha, beta or gamma. Also the forms of radium are called radium D, E, or F. These are respectively of lead and barium, of radium pure, and of polonium. Radium exists as a state of matter and helium is created in the gaseous form from the emanations of radium. By the collection of helium we discover a means of calculating the variations in strength or of emanation as registered in the element. From time to time this will vary. There are distinct periods to be observed. During this period there may occur an increment. Then a state of apparent constancy will ensue. A period may last fifteen years. Some forms of radium show a steady loss of power, and tend to dissipate themselves. All this is described in Mme. Curie's paper and will be reviewed later. Comas and Pio, the Spanish workers, give us their technique, and then in the November, 1911, issue, go over the treatment and results of 214 cases of neoplasm.

They consider these cases under the groups of (1) cutaneous epithelioma; (2) cutaneous carcinoma; (3) deep carcinoma; (4) returns after operation; (5) post-operative irradiations; (6) sarcoma; (7) various.

The statistics will prove of interest in comparison with those of Dominici and Abbe.

1.	Cutaneous epithelioma:	62
	cured	37
	improved	18
	unchanged	6
	aggravated	1
2.	Cutaneous carcinoma:	23
	cured	2
	improved	9
	unchanged	12
3.	Deep carcinoma:	39
	cured	2
	improved	14
	stationary	23
4.	Post-operative returns:	47
	cured	6
	improved	24
	unchanged	17
5.	Post-operative irradiations:	25
	cured	16
	relapses	8
	unknown	1
6.	Sarcoma:	13
	cured	2
	improved	4
	unchanged	7
7.	Various:	5
	cervical adenoma, relapsed,	
	lymphadenoma, relapsed,	
	fibrosarcoma, relapsed.	
	leukoplasia, cured.	
	Paget's disease, same state, but quiescent.	
This summarizes:		
	cures	66 30.86%
	improved	69 32.24%
	unchanged	66 30.86%
	relapsed	11 5.2 %
	aggravated	1 0.47%
	unknown	1 0.47%
		100.00%

Such a result is highly commendatory.

It is to be hoped that further studies will agree with this

favorable effect. We must remember that Keating-Hart of Marseilles advises preliminary operation and then applies the high frequency. There is some reason to believe that radium will render operable certain neoplasms which are inoperable at first recognition.

II. Reviewing certain radioactive studies in radium, Madame Curie, writing in *Radium*, October, 1911, takes up the important question of standardization. The liability of radioactive substances to change is known. We have briefly outlined this in the opening of the article. To those who would employ radioactive materials the standardizing of whatever element they utilize is needful. Madame Curie has won the distinction of naming the unit by her name. As the ohm is named from Ohm, and the ampere from Ampere, so the curie named from Curie, constituting the unit of radioactive material.

Uranium. This is used as the black oxid. It is finely pulverized and distributed upon a couch on a circular plate, and measured in an ionizing chamber, which gives the total alpha rays; the method is that by piezo-electric quartz. Consequently there is no need of correction for temperature or pressure.

Radium. A barium-radium salt combined with lead is employed. A current of sulfuretted hydrogen is passed through the matter. This causes the separation of radium D, E, F. Then boil. The residue must be dried. Put it in an ampoule of glass of thin walls. The ampoule must be surrounded with a layer of aluminum. Use this ampoule as the central electrode of a chamber of ionization. In this instance it will be necessary to correct for temperature and pressure because the ampoule is not sealed. There will be beta and gamma rays due to the increase of radium E.

Actinium. Some salt of actinium is chosen. But actinium diminishes rapidly. This, says Mme. Curie, suggests the inference that there is an intermediary between radium and actinium. Can this be an actinium X?

Radium D. A radioactive lead, chiefly the chloride of lead. We add hydrochloric acid to remove the radium E and radium F (colonium). Radium D (the lead compound) emits both alpha and beta rays, and these are measured according to emissions of helium.

Radium E. This has a period of 4.7 days. The alpha rays attain a maximum in two years. In the third year the alpha and beta rays are constant; see the tabulation for measurement in chamber of ionization.

The period of radium is fifteen years.

Radium F. This is polonium.

III. Madame Curie refers to the work of Rutherford and Geiger and of Marsden and Barratt. She studies the means of determining the distribution of the times of emission of alpha particles in polonium and in uranium.

She asks:

1. Is Polonium a lead compound? This would connect it with the emanations of radium D.

2. How to form our estimate? To measure by the volume of gas formed by the direct numerical of alpha particles which contribute to the formation of that gas in the constant of Avogadro, namely that equal volumes of all gases, under like conditions of temperature and pressure, contain the same number of molecules. Thus the number of molecules is deduced to be taken as a unit.

She gives two formulas for this calculation. The intervals of emission are to be so attained. We recognize that helium can be originated from radium, from polonium, and from radium D (lead).

Radioactivité is now accessible in German. Madame Curie's book called *Die Radioaktivität* comes from the press in 1911.

Another observer, Lind, writing from the same laboratory, in the August issue of *Radium*, says that it is necessary to establish exact methods of reckoning the penetrative power of the different radioactive substances and to this end she has initiated a series of experiments.

As physicians we will have to follow such studies. There are many operative procedures involving a knowledge of the value of the different rays, *alpha, beta, gamma*. And the substances from which these are emitted require analysis and test.

Radiology in Diagnosis. Legros, in the *Progrès médical*, December 16, 1911, explains what he calls the "effacement of the pylorus." It is the condition in which, owing to stenosis, the bismuth salt does not refract or shadow the plate of the radiogram, or the screen of the fluoroscope.

A very careful paper is made the text of the advice to resort to a fluoroscopic test in gastric conditions simulating cancer, especially of the pyloric region.

Pfahler, of Philadelphia, has partly covered the same field.

Progressive Pennsylvania.

Pennsylvania is taking care of its citizens. Under the leadership of the Health Commissioner, Dr. S. G. Dixon, the Commonwealth is vigorously proceeding to control tuberculosis and other preventable diseases.

From June 1, 1907, to June 30, 1911, the Pennsylvania State Sanatorium for Tuberculosis at Mount Alto treated 5,531 patients. Hundreds of these patients have returned to their homes virtually cured, hundreds more have been much benefited, and many others in the advanced stages were made comfortable and provided with a beautiful mountain home, where they would not be a source of danger to their families. A second sanatorium for tuberculosis is now building at Cresson, on a site given by Andrew Carnegie. A third sanatorium will be started shortly at Hamburg, in the eastern end of the State.

One hundred and fifteen free dispensaries for tuberculosis have been established, which, since July, 1907, have provided skilled medical aid and trained nurses for 41,792 poor tuberculosis sufferers.

In October, 1905, the Commissioner inaugurated free distribution of diphtheria antitoxin by the State. Up to December, 1910, 27,318 cases of this dread disease—mostly children—were treated for cure with the life-saving serum. The actual saving of child life resulting from the State's free distribution of diphtheria antitoxin in these five years Dr. Dixon estimates from statistics at 9,152 lives.

The battle against typhoid and for pure water has been successfully carried on. The typhoid death rate has been reduced from 50.3 in 1907 to 24.5 in 1910. From 1905 to August 1, 1911, private sources of stream pollution, to the number of 34,481, have been abated upon formal notice from the Department, and thousands more have been stopped through the moral influence of this work.

Eighty-nine modern sewage disposal plants have been either built or are in process of construction as approved by the State; eighty-six modern water filtration plants have been approved by the State and are either built or being erected.

Health Commissioner Lederle, of New York City, is accomplishing yeoman service in the cause of preventive medicine. The health of the city is constantly improving. For instance, the number of deaths in New York for the week ending December 23, 1911, was 1,310, and a rate of 13.71 per 1,000 as against 1,690 deaths and a rate of 18.36 per 1,000 of the population in 1910. This striking comparative decrease in the mortality rates was due to the decreased prevalence of influenza. Exactly twenty-two years ago influenza made its appearance in New York and was immediately acknowledged as a most important factor in the mortality of the community. It has never entirely disappeared during any year since its advent, and its diminished prevalence at this time may simply be the forerunner of a recrudescence during the coming months. It is to be observed that the decreased mortality was most marked at middle life and old age, at which age periods the above diseases are most fatal.

The Medical Times

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D.

Original articles and clinical communications will be welcomed, if given for exclusive use in this journal.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES:

(STRICTLY IN ADVANCE)

UNITED STATES, - - - - -	\$1.00 per year
(Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	
CANADA, - - - - -	\$1.25 per year
FOREIGN COUNTRIES IN POSTAL UNION, - - -	\$1.50 per year
SINGLE COPIES, 15 CENTS	

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded, until written notice to discontinue is sent to the publisher.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.

ROMAINE PIERSON, *President and Treasurer*H. SHERIDAN BAKETEL, *Secretary*

108 Fulton Street, - - - New York

Entered as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.

NEW YORK, JANUARY, 1912.

LOOKING FORWARD.

THE MEDICAL TIMES, after an honorable career of forty years as an exemplar of medicine, enters upon its fifth decade under new ownership and editorial management. Dr. Alfred K. Hills has given over the editorial reins, and the destinies of this time-honored publication are now in the hands of H. Sheridan Baketel, A.M., M.D. During the many years Dr. Hills guided THE MEDICAL TIMES along the stream of medical journalism, he never swerved for an instant from the straight course of ethical medicine. It is the ambition of the new editor to maintain the journal in its present enviable position and if possible to add new laurels to its crown. Dr. Baketel is amply qualified by education and experience, both as a medical practitioner and writer on medical topics, to carry out our high ideals of editorial conduct.

With the introduction of new ideas and new blood into THE MEDICAL TIMES, we confidently believe it will find much favor in the eyes of discriminating medical men.

It will be our sincere endeavor to produce a helpful, hopeful journal, free from freaky fulminations. Medical topics will be presented in a dignified manner in keeping with the traditions of the profession, but freed from the journalistic barnacles that sometimes attach themselves to the sides of the editorial craft.

The standard features of THE TIMES will be retained and amplified, and a number of new departments will be introduced from time to time.

Original articles, which will give something entirely new along the lines of etiology, pathology or treatment, will be featured. An earnest endeavor will be made to obtain original matter from the best known research workers, clinicians and therapeutists. These articles will be differentiated from clinical contributions which, although original as to preparation, will deal with the

generally accepted methods of diagnosis and treatment. The departments devoted to bibliography, correspondence and the like will be retained and made more efficient.

Instead of the cut and dried extracts of articles from other journals, we plan to group the material under subjects and treat them collectively instead of individually. Especial attention will be paid to German, English and French medical literature and the important topics will be treated in collective manner. A department devoted to the subjects of nursing, dietetics and hygiene, so closely allied with and essential to the successful practice of medicine and surgery, will furnish an outlet for much material of value which it is believed has not thus far been given sufficient recognition in medical journalism. Another section will be set aside for reports of medical work in hospitals and sanatoria. The editor will strive to maintain the ethics and ideals of the medical profession and to present a faithful record of the trend of the science and art of medicine, from the viewpoint of the practitioner, with ever-zealous attention to his needs. Actuated solely by the desire to advance the interests of "those who do minister unto the ills of mankind" and to elevate our honored profession in the minds of thinking men, THE MEDICAL TIMES bespeaks the friendship and hearty co-operation of its readers and the goodwill of its contemporaries.

THE ACHIEVEMENTS OF 1911.

It is significantly unpleasant to observe that when any notable achievements are discussed by prominent men outside the medical profession, subjects pertaining to medicine and surgery are usually omitted. In fact, the great mass of our intelligent laymen apparently do not realize the importance of the remarkable discoveries being made in the medical world. It is only when some tremendous accomplishment is brought home to the individual by the saving of the life of a relative or friend that the layman is able to appreciate the strides medicine is taking and the real, actual ends it is accomplishing.

The *New York Times*, with characteristic enterprise, asked many "princes and potentates," authors, statesmen and educators, and leaders of thought the world over, to give the "five greatest achievements the human race had made during the ended year" of 1911.

Of the many answers received only two were from medical men, and they were not Americans. Several of the men interrogated were practically unknown outside of their limited circle.

In a medical way, the added knowledge of specific medication for syphilis which bids fair to wipe out a scourge the world has suffered from since earliest times, made the year 1911 prominent. During the past twelve months the medical profession has perfected the technique and has discovered new fields for usefulness, yet this means for the world's betterment attracted only two favorable notices, that of Count Bernstorff, the German Ambassador at Washington (who also mentioned Wassermann's progress in cancer research), and President Benjamin Ide Wheeler of the University of California. Privy Councillor, Prof. Paul Ehrlich, M.D., with characteristic modesty, makes no mention of his discovery, contenting himself with the remark:

"I consider the greatest achievement of the past decade the knowledge that has been gained incidental to the discovery of radium, with regard to the transformation of matter."

Sir James Barr, the well known English physician, said nothing of a medical nature worth commenting on,

but this is not to be wondered at in view of his query, "How can you expect any great achievements from a rapidly degenerating race like the British?"

President Taft is one of the few who discovered something of moment accomplished by the medical profession. His second achievement is "The demonstration of the complete success of the prophylactic in typhoid fever as shown by the fact that in the mobilization of 15,000 troops in Texas for three months there was only one case of typhoid." James Bryce, the British ambassador, says that "Little was said of the discovery that mosquitos are carriers of yellow fever and of the intermittent fevers, yet what immense consequences are already seen to flow from the determination of that fact." President Thwing, of Western Reserve University, notes as pre-eminent: "The growth of medical education and research exhibited in the strengthening of the medical school and medical institute. All these items taken together are simply evidences of the increase of the respect and of the confidence which humanity has for and in itself, a most happy result if it is properly seasoned with the rock-salt of humility." Dr. Henry van Dyke, of Princeton, sees in "The advance made in restorative surgery" something worthy of notice, and Dr. Flexner's serum for spinal meningitis attracted the attention of Booker T. Washington.

All the others contributing to the symposium found 1911 remarkable on account of the launching of the Olympic, the progress of the Panama Canal, the Chinese revolution, the control of trusts, or the advance in aviation, etc. The Pope was impressed by "the entrance of America into the comity of the great Catholic powers through the creation of three new American Cardinals." The King of Italy dwelt on aviation, wireless and a monument to his father, and the Queen of Roumania saw "no real progress at all" in 1911.

Many of the so-called achievements noted by different writers appear trivial in the extreme and they show somewhat conclusively what a small impression the really great advances in medical science made upon most thinking men outside its own ranks.

Should not a campaign of public education be inaugurated to enlighten the people on the importance of progress in prophylactic and preventive medicine and in the different branches of the art?

ENGLISH MEDICAL MEN RAMPANT.

THOSE of us who have attended the sessions of the British Medical Association have always been impressed by the dignity, the almost austerity, of English medical men.

Their one thought has appeared to be the maintenance of "good form." It is, therefore, difficult to credit the reports in the newspapers of the actions of 2,000 British physicians, who met in Queen's Hall, London, just before Christmas to consider the medical attitude toward the National Insurance Act.

It is incredible that the terms, "rowdy," "hoodlum," and similar opprobrious epithets could rightfully be applied to any English physician, but if some of the more conservative papers are to be believed, the conduct of the attendants at the meeting justified the appellations.

Sir Victor Horsley, whom American medical men hold in such high respect, is said to have been hooted and hissed and greeted with cries of "Swank" and "Traitor." Just what a "swank" may be we have no knowledge, but being coupled with "traitor" is significant that it is hardly a term of commendation. Although desiring to speak as a member of the Council

of the British Medical Association, Sir Victor was unable to make himself heard in the five minutes allotted to him and another member of the Council, Dr. Keay, was no more successful.

A well known journalist, Harold Spender, thus describes the meeting:

"I have seen many a feverish meeting—strike meetings, war meetings, publicans' meetings. But never, perhaps, have I seen a more complete absence of the sense of justice or fair play than among these doctors. A meeting of workmen will almost always respond immediately to the call for fair play. This meeting only yelled the more loudly. Their treatment of their own fellow-professionals was astounding, incredible." Another observer describes how middle-aged men sprang from their seats yelling and brandishing umbrellas to the imminent danger of their neighbors, and sums up by declaring that it was a scene of violence, abuse and disorder that would have discredited a gathering of dockers on Tower Hill.

It is scarcely necessary to concern ourselves with the merits or demerits of this bill. It would seem, however, to meet the desires of the majority, in that it passed the House of Commons by a vote of 320 to 21 and passed the House of Lords without a single vote in opposition.

The Council of the British Medical Association also favors the adoption of the bill, which intimately affects medical practitioners, so it is difficult to see why the opponents to the act should be so vociferous in their denunciation.

Certain it is, the conduct of the physicians in attendance at the Queen's Hall meeting has brought discredit upon the entire body of medical men in Great Britain and we truly hope the British Medical Association may take such action as to remove the stigma so unfortunately placed upon the escutcheon of English medicine.

SHALL THE CANTEN BE RESTORED?

The much mooted question of the advisability of the restoration of the army canteen has been forcibly brought to the attention of the medical profession by a petition recently presented to Congress by Dr. W. W. Keen, of Philadelphia, signed by 275 of the leading medical men of the country.

Dr. Keen is well known as a total abstainer and an ardent advocate of temperance. His expressed belief in the necessity of giving the soldier his canteen, where beer may be obtained, is therefore worthy of serious consideration.

In a letter explaining his attitude on this subject, Dr. Keen writes under date of December 19:

"If I had autocratic sway in America, I should nail up the doors of every saloon and put on them a placard 'To rent for some decent business,' and yet I am in favor of allowing beer (and be it noted that beer only would be provided in the canteen) to be sold to the soldiers. As a surgeon I am bitterly opposed to mutilating the body of any fellowman by amputating a leg, but when I have met with the alternative that the man must either lose his leg or lose his life, I have unhesitatingly sacrificed the leg in order to save the life.

"It is by a precisely similar course of reasoning that I have reached the conclusion that the canteen should be restored. As I have read over for some years the reports of the Surgeon General of the army, I have been deeply stirred by the recent enormous increase in the prevalence of venereal diseases to nearly 20 per cent of the army annually! In my personal relations as a surgeon I have known no less than five of my warm personal professional friends who have suffered from an innocent syphilitic infection which has destroyed their health or their lives. My old friend, the late Dr. Nevins Hyde, of Chicago, told me that he had at that moment seven physicians under his care for an accidental syphilitic infection, and he mentioned several cases of physicians of his acquaintance who had committed suicide as a result of such an infection.

"The wives and the children of our soldiers are much more subject to accidental and innocent infection than physicians. Many of their wives are inevitably infected either with gonorrhoea or syphilis, and their lives made miserable and the community deprived of healthy children-bearing women. Many of their children are doomed to blindness from gonorrhoeal infection in the very act of birth, many of them are rendered hopeless and wretched subjects of inherited syphilis, and in turn both father, mother and children may infect others.

When I read in the *North American Review* an article by James H. Blount summarizing and collecting much of this information, I asked myself "What is my duty as a citizen, a surgeon, and a Christian toward the men in the army, toward their wives and children, and toward the community?"

"After thinking the matter over very carefully, I concluded that there was laid upon me a duty to endeavor to influence Congress to repeal the bill prohibiting the sale of beer in the army posts and that the most powerful influence I could bring upon Congress would be a petition from medical men alone and based on medical grounds. Accordingly, I drew up the petition and sent it to a number of medical men all over the country. I have received 278 signatures, three too late to be included in the petition. I received only three refusals to sign; one because of his want of information, a second because his brother had died as a result of dissipation, the third because he was opposed in toto even to the use of beer, no matter what the consequences in other respects might be.

"The verdict, therefore, of the profession at large it seems to me is very clear. Our petition only referred incidentally to the benefits of temperance, which we all would approve, to the diminution of the number of desertions and of court martials for infractions of discipline, which certainly would be diminished by the restoration of the canteen. Our main plea was purely a surgical and humanitarian one, viz: the alarming increase of venereal diseases and their results to the soldier, his wife and children and to the community and the nation. To my mind the alternative is simply this: Re-establish the canteen in which simply beer may be sold under the supervision of the military officers of each post, or on the other hand abolish the canteen and drive our soldiers to the vile saloons just outside the military reservations, resorts which are brothels as well as saloons, where the soldiers are supplied with the vilest kinds of whisky, not seldom drugged, robbed of their scanty pay, and infected with either gonorrhoea or syphilis, which in turn they transmit to their wives and children, and it may be to others who are entirely innocent.

"Between these two alternatives any sensible man it seems to me cannot hesitate which one to choose. If you, my colleagues, approve of the stand taken in the petition, I hope that you will write immediately to your Representative and your Senator and to any other in either house of Congress whom you may know or upon whom you can exert any influence, and that you will especially write to the chairmen of the Committees on Military Affairs of the House and Senate. Public opinion rules in America, and while there are undoubtedly a number of members who may be afraid of the bitter assaults that would be made upon them by the ultra-temperance advocates of the country, I believe that there are enough men of independent sound judgment in each who will vote conscientiously, and in accordance with their sincere convictions, after careful investigation of the subject."

A CLINICO-LABORATORIAL FORUM.

THE MEDICAL TIMES will welcome contributions from physicians who have clinical matter to offer. Original articles presenting work, or analyses of work, actually done by the writer, of a clinical or a laboratory nature, will be especially acceptable. Our readers desire articles which are sufficiently technical to present the newer serum-therapy, vaccine work, and serum prophylaxis, typhoid vaccination and studies of blood tests, serum reactions for diagnosis, studies of nitrogen partitions, as well as the clinical analyses of case series. To attain the most practical end, the needs of the average physician, not in a laboratory, although employing the resources of one and seeking every diagnostic and therapeutic resource of our day, must be recognized. He must be kept posted in those newer resources and the technique of many procedures. Besides this, papers upon the philosophy of medicine and upon general social, historical and ethical problems as they arise will

be available in these columns. We shall hope to present in every issue several short clinical reports contributed by our readers on the etiology, diagnosis, prognosis and treatment of various conditions.

NEW HONORS TO DR. SAJOUS.

Much interest attaches to the recent announcement that Dr. Charles E. de M. Sajous, of Philadelphia, has become supervising editor of the *New York Medical Journal*. After years of patient, unremitting effort, devoted to the study of internal secretions and their relations to the principles of medicine, Dr. Sajous has been rewarded with the plaudits of his fellow physicians. Scoffed at and ridiculed a few years ago for promulgating a theory which seemed preposterous to the untutored, he is to-day recognized as one of the great leaders in medicine—as a blazer of a trail leading into the vast physiological unknown.

Medicine owes an unpayable debt to Sajous. He is unveiling many of the mysteries of the body and his future researches, we confidently believe, will give to the medical world knowledge of a most profound and valuable order.

PHYSIOLOGICAL STUDIES.

The editor of the *Zentralblatt fuer Physiologie*, Bd. XXV, No. 18, November 25, 1911, reviews the working table of physiological chemists and physiologists all over the world. Of the many principal problems now being attacked, that of acidosis and enzymes may seem most prominent. A host of details and minor studies to fill up the gaps of main studies are in process of working out.

G. D. Barnett and W. Jones, of Johns Hopkins, are taking up the question of the recovery of adenine.

C. Funk is studying the probable formation of adrenalin in the body. He believes adrenalin is derived from Di-hydroxy-phenyl-alanin.

W. Cramer considers the inactivation of adrenalin, in vitro and in vivo. He says that a solution of adrenalin 1:50,000 added to a 1:500 solution of formaldehyde loses its coagulative power, and that pituitrin (anterior, posterior, or combined?) does not so lose that power.

Tests upon blood are detailed.

In adrenalin then, having an amino-group, there is the question of what its relation to the formaldehyde solution may be. But the tests with pituitrin seem to show that the function is not dependent upon this amine. Among all hormones, including the duodenal carriers, none loses by formaldehydization, except adrenalin.

It is not oxidative change, either, adds Cramer.

(These studies afford precious light upon the most intricate problems of opsonin formation and the mechanism of immunity).

Blaizot, Lesné and Dreyfus consider the anaphylactic relations of materials in the digestive tract, especially concerning hydrochloric acid, chyme and the secretions of the pancreas.

H. G. Chapman, in Australia, takes up the study of precipitins.

Liniment for Burns.

Dr. L. Münch's formula (*Pharm. Zentral. Nat. Dr.*) for an excellent liniment for burns is as follows:

Boric Acid	3 grams.
Solution of Aluminum Acetate.....	10 grams.
Lime Water	40 grams.
Liquid Vasenol	50 grams.

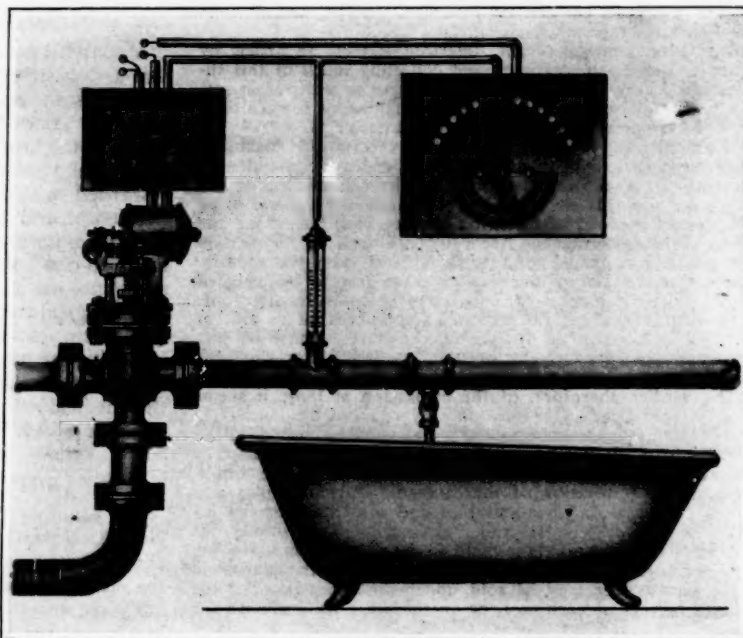
The lime water may be replaced by water. Liquid vasenol is a white neutral emulsion of paraffin oil, containing 33½ per cent. of water.

Hospitals and Sanitaria

AUTOMATIC MIXING VALVE FOR BATHING WATER.

An electrically-operated mixing valve by which any desired temperature of warm water may be kept constant, is described in a recent issue of the *Scientific American*. It is illustrated herewith. The mixing valve is adapted for use in large institutions, such as baths, sanitariums, and the like, as well as for various industrial purposes where constant temperatures are required. It will be observed that the temperature is controlled by a thermometer whose bulb reaches into the pipe containing the mixed hot and cold water. This thermometer is provided with platinum contact points connected to a double-switch lever, which may be set for the maximum and minimum temperature desired. This double switch may be seen directly over the bath tub in our illustration. Wires run from the switch to a set of relays, shown at the left-hand side, which controls the circuit of a motor that operates the mixing valve. This valve connects either the hot water pipe or the cold water pipe or both with the mixed water supply pipes. The operation of the device is as follows: If it be desired to keep the temperature within the limits of 78 degrees and 82 degrees Fahrenheit, the two switch levers are adjusted accordingly. Thereafter, the apparatus operates automatically.

If the temperature in the pipe with which the thermometer connects is below the minimum, the circuit of the motor will close automatically, opening the valve to the hot water supply until the temperature of the mixture has been raised to or above 78 degrees. If the mixture grows warmer than 82 degrees more



AUTOMATIC DEVICE FOR CONTROLLING THE TEMPERATURE OF BATHING WATER.

Courtesy Sci. Amer.

cold water will automatically be supplied. A large number of bath tubs may be supplied through a single mixing valve and the temperature of the water supplied to each tub will automatically be maintained between the predetermined limits.

FLOATING SANATORIUMS.

The idea of establishing upon the sea, by means of appropriately fitted-up vessels, sanatoriums whose mission shall be quiet, change of scene, climate and environment, has come more and more prominently into the European journals of hygiene and climatology.

The *Zeitschrift fuer Balneologie, Klimatologie und Kur-ort-Hygiene*, Vol. 4, No. 8, prints many views upon the Schiffssanatoriums-Idee, Schwimmende Sanatoria and their necessities.

So many convalescents find a sea-voyage beneficial that the notion of going to sea even while ill would suggest itself, except for the hindrances of expense, the matter of right diet, nursing and medical supervision.

That these may be overcome in the European "schwimmende" sanatorium and the treatment aided by natural advantages is evident, and in the papers of H. Leyden, Diem, E. M. Simons and H. Paull we read of the factors of temperature, pressure, weather, in general, and the advisability of arranging for periodic landings.

The Mediterranean is suggested for the months of February, March, April, May, June, October and November.

The North Sea is desirable in July and in August.

The Atlantic the year through offers excellent travel-opportunities as regards all the prime factors of climatologic requirements.

Leyden reviews the mechanical factors of size, stability, expense and management of a sea-going hospital.

Diem favors the Mediterranean for year-long cruises.

It becomes difficult for the American physician to aid his patient in choosing a journey of health. Many of our best students have no personal familiarity with special conditions. The world is large. Hospital cases have not had the advantages of such floating hospitals as the development of this idea would facilitate. Exact data are not obtainable. In many matters the information of climatologic factors must be obtained from interested publications. To avoid this, the *MEDICAL TIMES* hopes to collate government and special scientific information. This hemisphere contains some of the best territory for health and recreation. There are many valuable springs and great lakes and sea-coast lines.

Simons, in the review quoted above, continues the discussion from the European aspect. He says that inexperienced people select seasons of the Mistral, the Bora, or the Schirokko (sirocco), and says that the Atlantic offers in the main part a peaceable region—it was in its embrace that the exploring Columbus was becalmed. The region of the Madeira and of the Azores is of special value. In the Azores there is a temperature range of rarely more than ten degrees Fahrenheit. From this it seems remarkable that sea-hospitals are so few.

Guiteras in his 1895 lectures told of the effect of a sea-voyage upon yellow fever. A case rushed to a vessel and steered straight out to sea will either die or make a speedy recovery.

Upon all gastro-intestinal ailments the effect of ocean conditions is marked.

In Philadelphia, on the Delaware river, there has been a hospital ship for thirty years taking sick babies and convalescing children down the river. Another boat was run up the river for a similar purpose. There is a stop for those who wish to spend the midday. Many lives are saved annually. The influence of climatologic factors are incalculable. We know that in sea air and its vapors of bromin and iodine there is all the exhalation and effluvia of the great mother liquor of old ocean.

It comes to this, shall we parallel Antæus, not in falling to earth, but in going to sea?

HOSPITAL CONTRIBUTIONS IN 1911.

The enormous sum of \$259,874,695 was contributed by the American people during the year 1911 for charitable and philanthropic uses. Of this amount about \$105,000,000 was given for religious purposes, including charities supported by churches.

Educational institutions and organizations received \$63,000,000. The amount received by hospitals has not been computed, but it ran into many millions.

Andrew Carnegie contributed the largest amount of any one individual, \$43,086,300, but as usual he gave very little for medical purposes, the only item we have on record being \$20,000, and that went to the University College of London. Carnegie's contributions are usually in channels outside of medicine, where more personal glory may attach. His closest rival in the year's benefactions was Dr. Samuel Balla, a physician of Los Angeles, Cal., who is said to have \$10,000,000 to his credit.

Dr. Balla is a member of an Austrian noble family and the only heir to one of the largest estates in the heart of Breslau. "Studying medicine in the universities of different countries, I know the value of great hospitals and charitable institutions," said Dr. Balla, "so I give my fortune thus to benefit mankind. It will establish hospitals, municipal homes and asylums for the poor, the ill, and the aged. It will do much more good in this way than if I retained it in my possession."

It is impossible to specify the hospital gifts in toto, but many of the more important donations are quoted. One of the most important is that of \$5,000,000 bequeathed by Peter Bent Brigham of Boston for the erection and endowment of a hospital in that city. Despite the contention of his heirs, it is to be used for this purpose. When completed, the Peter Bent Brigham Hospital will be the greatest general hospital in the country. It will consist of fourteen buildings and will be closely associated with the Harvard Medical College in spirit. Many Harvard men will be on its staff, and its magnificent buildings will adjoin and conform with the elaborate Harvard Medical School group on the Fenway.

James A. Patten, the multi-millionaire grain and cotton operator, is following the example of John D. Rockefeller in bestowing enormous sums upon medical research. The death of a brother, who succumbed to tuberculosis after years of suffering, turned Patten's attention to the needs of science in conquering that disease, and \$2,000,000 was given by him to the Northwestern University Medical School of Chicago for a research department against the white plague. Mr. Patten further contributed \$500,000 for Mexican research in the same disease, and his other philanthropies amounted to \$1,500,000. These included a hospital in Evanston, Ill.

John D. Rockefeller, America's foremost giver to the cause of medical research, contributed an additional \$3,820,000 to the endowment of the Rockefeller Institute for Medical Research in New York.

The late Mitchell Valentine of New York City bequeathed \$1,146,826 each to the Hahnemann and Presbyterian Hospitals of his native city.

A year before his death Mr. Valentine, poorly dressed, called at the Hahnemann Hospital, and asked the Superintendent to show him over the institution. He insisted upon peering into every nook and corner of the wards and operating rooms and the nurses' quarters. He made a note upon a greasy scrap of paper relative to how many free beds the hospital maintained.

No one in the institution knew the name of the visitor until notice of the bequest was made.

Thomas N. Miller, of Pittsburg, who is said to have given Carnegie his start, left \$2,000,000 to the Woman's Hospital of Pittsburg.

Smith Ely, a former mayor of New York, gave over \$150,000 to hospitals and nurseries in his native city.

E. V. Crowell willed \$750,000 to the University of California; \$250,000 to be used for a gymnasium, \$250,000 for a stadium, and \$250,000 for a hospital to be maintained in conjunction with the university.

Mrs. Whitelaw Reid, wife of the Ambassador to the Court of St. James, gave \$600,000 to St. Luke's Hospital of San Francisco, in memory of Mrs. Reid's father, the late D. Ogden Mills.

Mrs. Louis Monteagle gave \$400,000 to the same hospital.

A California woman presented \$500,000 to the University of California to found a pathological institute. The condition accompanying the gift was that her name should not be given to the public.

George L. Fox, of Brooklyn, gave \$460,000 to various hospitals and other Brooklyn Roman Catholic organizations.

John W. Gates, the steel man, bequeathed \$150,000 to the Mary Gates Hospital of Port Arthur, Tex., and his wife has also made a considerable gift to the institution, which is named in memory of Mr. Gates' mother.

R. A. Long, a prominent lumber dealer of Kansas City, felt that his home city needed a Christian church hospital, so gave \$400,000 toward its establishment.

The sum total of the gifts by will of Nathaniel Thayer of Lancaster, Mass., was \$365,000, of which the Massachusetts General Hospital received \$50,000.

A goodly portion of the \$350,000 left by John J. Clancey, of New York, went to hospitals, and the New York Foundling Hospital was generously remembered in the will of James Rufus Smith.

George J. Gould contributed \$200,000 for the erection of a modern charity hospital and nurses' home at Lakewood, N. J.

Walter E. Duryea, of Montclair, N. J., left \$160,000 to Montclair and New York City hospitals. Mr. Duryea broke his neck by diving in shallow water twelve years before his death.

Lispenard Stewart, of New York, decided to make charitable gifts in his lifetime instead of waiting until after death, so he gave the New York Eye and Ear Infirmary \$25,000, Roosevelt Hospital \$25,000, and \$50,000 to various charities.

William T. Wardwell, of New York, for many years treasurer of the Standard Oil Company, bequeathed \$100,000 to the Red Cross Hospital of New York, provided it used no alcohol and as few narcotic drugs as possible.

Charles R. Crane, of Chicago, the manufacturer, who writes in the public prints that all college students are instinctively wicked, contributed \$100,000 to alleviate suffering among the Albanians. The money was distributed by Miss Edith Durham, superintendent of the Podgoritz Hospital.

A small swelling (*Am. Jour. of Surg.*) in the parotid region may be an inflamed lymph-node. A single focus of tuberculous lymphadenitis is sometimes to be found here.

Reliable statistics show that the mortality from traumatic tetanus is about 80 per cent.

What Is New in Therapeutics

Progressive Medicine, 1911, Vol. XIII, No. 4, devotes considerable space to a most interesting practical therapeutic referendum, compiled by H. R. M. Landis. Many references are worthy of further study.

Arsenic.—Willge (*Munch. Med. Woch.*, 1910, LVII, 620) obtained satisfactory results from arsenic in the treatment of organic nervous diseases. He used a 1 per cent. solution of arsenous acid hypodermatically, beginning with 1 mg. and gradually increasing to 10 mg. The maximum dose being obtained, it was continued from 3 to 8 days, and then gradually diminished to the minimal dose. Then the arsenic was discontinued for 14 days and after that it was resumed as before. Of 12 cases of multiple sclerosis treated in this way, nine made much improvement. The best results were obtained in complicated multiple sclerosis without optic atrophy. Gunn & Teetham (*Brit. M. J.*, 1911) believe that arsenic, whether in the form of sodium arsenite or sodium arsenate, exerts on the red blood cells an action antagonistic to that of certain hemolytic agents. The experiments, therefore, afford additional proof that a protective action on the formed red blood cells against normal or abnormal hemolytic processes may, in part at least, account for the as yet imperfectly explained benefit which results from the medicinal administration of arsenic in blood diseases.

Atropine.—Schick (*Wien. Klin. Woch.*, 1910, XXIII, 1229) reports excellent results in obstinate cases of gastric ulcer under a systematic course of atropine. Pain quickly disappeared. Hyperacidity and hypersecretion were less quickly influenced. Pyloric stenosis due to cicatricial contraction was either not at all or only slightly influenced. Schick also approves of atropine in spastic constipation, spasmodic asthma, pylorospasm, lead colic, cardiospasm and gallstone colic.

Drenkahn, (*Zeit. f. Gyn. Leip.* XXXIV, No. 47, 1529) writes of several cases of dysmenorrhea in which injection into the cervical canal of 1 mg. of atropine dissolved in 1 c.c. of water arrested at once the colic spasms in the uterus or prevented their development. If there is no speculum or syringe at hand, the same effect can be realized by introducing a small cotton wad moistened with a 1 per cent. solution of atropine and pressed far back against the posterior vault of the vagina. This simple measure has proved effectual in his experience of fifteen years. His experience has shown that even a single application of the atropine may cure a chronic tendency to dysmenorrhea when there are no morbid changes in the genital organs. He adds that mild acute and chronic inflammatory conditions in the uterus may yield promptly to sitz baths and other measures when the uterus is under influence of atropine, when otherwise the affections are refractory to all treatment. He wonders that more attention is not paid to atropine as a means of enforcing rest for the uterus in morbid conditions, and states that his communication is for the purpose of rescuing atropine from the neglect into which it seems to have fallen in respect to the treatment of painful affections of the uterus.

Cactus Grandiflorus.—Testimony concerning the therapeutic value of this drug is very conflicting. Some observers report good results, while others see no good in it. For example, Hatcher & Bailey (*J. A. M. A.*, Jan. 7, 1911), report, after experimentation, the true Mexican cactus appears to be inert, without any pharmacological action.

Chloretone.—Fivere (*La Presse Med.*, July 20, 1907), and Anderson (*N. Y. Med. Jour.*, Vol. XCII, No. 27), are impressed with the value of chloretone applied to the mucous membranes of the throat and upper respiratory tract.

Vapor of chloretone deposited upon a surface of mucous membrane forms a white film. Gradually it becomes dissolved by the moisture on the surface of the membrane. At first there is a slight tingling and a suggestion of the taste of camphor, which is soon followed by its anesthetic action.

Chloretone applied in this way to a *tuberculous larynx* will produce in a few minutes an anesthetic effect sufficient to enable a patient to swallow soft food without discomfort. This effect often lasts for hours, and can be repeated several times a day, if necessary. In a similar manner chloretone is used to relieve the pain following operations upon the throat and in malignant diseases. Like all similar drugs its effects will wear out in time, but it can be used in increasing frequency without danger of establishing a drug habit or fear of poisonous effects. Its marked germicidal action adds to its value when used locally.

Cocain.—Death after the injection of cocain into the urethra in ordinary doses is reported in several instances. Most authorities say that a 20 per cent. solution may be swabbed on the mucous membrane and the *Surgical Handbook of Caird & Cathcart* states that 2 drams of a 5 per cent. solution can be safely injected into the urethra.

Digitalis.—Von Leyden (*Ther. der Geg.*, Berlin, 1910, LI, 11), is of the opinion that digitalis should only be given in times of urgent need. Owing to the drug's action on the left ventricle alone, the writer deprecates its use when the right ventricle is weak and says it is contraindicated in mitral stenosis, emphysema and kyphoscoliosis. Digitalis acts as a specific on the tonicity of the heart muscle and is indicated whenever symptoms point to a failure of that function, says Schmoll (*Am. Jour. Med. Sciences*, Jan., 1911). A new use for digitalis is to arrest the tendency to spontaneous epistaxis, reported by Focke (*Ther. der Geg.*, Berlin, Sept., 1910). He has given digitalis for this purpose in 84 cases, and it proved successful except in a hemophilic and in a woman given to excessive coffee drinking and tight lacing. In 75 per cent. of the patients the tendency to nose-bleed was promptly and permanently arrested within twenty-four hours after taking the digitalis, even in a few cases in which the bleeding was due to some anatomical anomaly, correction of which later permanently arrested the tendency to epistaxis. He adds that digitalis formerly was a common remedy for a tendency to hemorrhages, but it was abandoned toward the close of the last century for theoretical reasons, which have since been shown to be erroneous.

Fibrolysin.—This product is of value in arthritis deformans, says Mendel (*Ther. d. Geg.*, 1911, LII, 155), and is best given in the form of suppositories. Unpleasant after-effects are not frequent.

Glandular Extracts.—Frankel (*Arch. f. Gyn.*, 1910, XCI, 705) thinks the corpus luteum is a gland whose internal secretion causes alterations essential to the embedding and early development of the fecundated ovum. Frankel had no good results following the administration of corpus luteum extract in dysmenorrhea, irregular periods and the intoxications of pregnancy, but it was of value in cases showing signs of vasomotor origin, due to absent or diminished ovarian function. A J. Smith in the University of Pennsylvania laboratories (*U. of P. Med. Bull.*, July, 1910) says the corpus luteum extract possesses distinct value in osteomalacia, menopausal disturbances and in hypofunction due to infantile uterus. Pituitary extract, remarks Wiggers, (*Am. Jour. Med. Sciences*, Ap., 1911) resembles adrenalin in its action only in causing a rise in blood pressure.

Klotz (*Munch. Med. Woch.*, May 23, 1911) writes from Sellheim's clinic to describe experimental researches and clinical experiences with an extract made from the hypophysis. It induces a moderate rise in blood pressure, lasting for several hours, with only slight demands on the heart. At the same time it stimulates the heart and peristalsis, and also the bladder, and increases the output of urine while it proves a stimulant for the uterus and the cardiovascular system in general. By intramuscular injection the action is speedy, and

he does not think that any injury of the human organism under moderate dosage need be feared.

Wilson (*Brit. Med. Jour.*, Dec. 10, 1910) reports a most interesting case of rheumatoid arthritis in a man of 54 treated with the thyroid extract. The patient was bedridden, all the joints being more or less involved, with extreme wasting, anorexia, sleeplessness, and constant pain. The patient had no illness until the onset of this condition, which had been coming on gradually for 14 years. He could not stand, had lost all power of locomotion, could not feed himself, nor raise his arms to brush his hair. He showed rough, dry, harsh skin, crisp hair, husky voice, and deep suprasternal notch. There was prominence of the trachea and apparent absence of thyroid gland, analogous to other conditions suggesting deficiency of thyroid secretion.

Extract of thyroid was administered in doses of 5 grains three times daily, together with adjuvant treatment. In a month the results were remarkable. The patient could walk on crutches from one room to another, his appetite returned, and pain was almost gone. In three months he could walk with two sticks, and in eighteen months he was able to walk three miles with the aid of one stick. His elbows and shoulders have regained their mobility almost entirely, and he has been for a year able to do without his thyroid extract without a relapse.

Thyroid extract has also been beneficial in certain cases of cancer, according to Jones (*Brit. Med. Jour.*, Feb. 25, 1911).

Ichthyol.—This product is efficient in tuberculosis in the early stages, all forms of bronchitis and in pleurisy, Barnes (*Med. Rec.*, Jan. 21, 1911) announces. He finds that when given in large doses, 20 grains t. i. d., it has a decided laxative effect upon the bowels, diminishes the quantity of mucous discharge, and hastens convalescence. The drug appears to be broken up in the stomach rapidly, stimulates the gastric mucous membranes and aids in the assimilation of food. Barnes believes that unless the patient manifests an immediate desire for food it is well to discontinue treatment with the drug. Barnes gives ichthyol in solution in combination with peppermint water.

Iodine.—This valued product has been used successfully by Flick (*Month. Cycl.*, Aug., 1900) in tuberculosis in the form of cresol iodide inunctions. Like iodoform, this substance gives striking results. There are other forms of iodine besides cresol iodide and iodoform which can be used for inunction. Iodized oil, which is much cheaper than a solution of cresol iodide, gives satisfaction, although it does not seem to Flick to be as useful as the latter. It is his belief that part of the value of cresol iodide and iodoform lies in breaking down after absorption, with production of nascent iodine. There are quite a number of iodine compounds similar to these two which may be used, but some of them break down too rapidly, and others too slowly. There are preparations which are much richer in iodine than cresol iodide, and which would probably be more valuable for inunction purposes were it not that they break down almost immediately when dissolved in oil, and therefore give practically an iodized oil.

Some of the formulas which the author has used with satisfaction are as follows:

R—Cresol iodid..... 3ij
Ol. rosæ gtt. ij
Ol. anisi,
Ol. gaultheriæ aa ʒij
Ol. olivæ q s. ad ʒjv—M.
Sig.—Rub into the body as directed.

R—Cresol iodid..... 3ij
Ol. anisi,
Ol. gaultheriæ aa ʒij—M.
Sig.—Rub into the body as directed.

R—Cresol iodid..... 3ij
Ol. gaultheriæ ʒij
Adipis lanæ hydrosi..... ʒij—M.
Sig.—Rub into the body as directed.

A secondary effect of the inunction which perhaps contributes a good deal to its usefulness, is the stimulation of the vessels in the skin by the rubbing and the gaultheria. It is possible, too, that the gaultheria has medicinal effect. The annoyance which patients suffering from mixed infection in the lymphatic tissue of the pharynx and the postnasal pharynx are subjected to, can be done away with by inunction of the parts, particularly around the tonsils, with a saturated solution of cresol iodide in equal parts of oil of anise and oil of gaultheria.

Iodine offers the military surgeon an ideal skin antiseptic, remarks Antelo (*Mil. Surgeon*, Dec., 1910).

Ipecacuanha.—This old remedial agent is attracting attention in the treatment of hepatic abscess. Pilgrim (*Ind. Med. Gaz.*, Sept., 1910), superintendent of the Presidency General Hospital, Calcutta, is keenly interested in the subject.

Although he does not claim that it is possible to cure hepatic abscess, he believes that the hepatitis which leads to the formation of the abscess can be readily recognized in many cases before pus is formed, and that ipecac will prevent the development of the more serious condition. The patient at this time suffers from a general feeling of lassitude, loss of appetite, foul tongue, pain in the right shoulder and hypochondrium. The liver is enlarged, and there may be loss of weight, with varying degrees of elevation of temperature, sweats, and chilly sensations. The blood examination reveals a marked leukocytosis, although the polynuclear increase is not very great. Of course, the onset is more insidious. A careful examination will often discover the condition of the liver. Pilgrim is certain that the use of alcohol and a diet consisting largely of meat distinctly predisposes to the development of this hepatic complication of dysentery, particularly alcohol.

The treatment of the acute hepatitis preceding the formation of liver abscess is described by Pilgrim as follows: When not associated with loose stools, and the bowels are, on the contrary, inclined to be costive, a mild mercurial purge is first given, otherwise the ipecacuanha treatment is begun on the evening of admission or on the diagnosis of the disease. It is necessary that the patient should have nothing to eat or drink for at least two hours before and after the giving of ipecacuanha. Twenty minutes before taking the ipecacuanha, Pilgrim gives 20 grains of chloral, and then, in average cases, he gives 25 grains of ipecacuanha. In severe cases, in which the full influence of the drug is immediately required, he gives 30 grains for the first three or four nights, after that reducing to twenty-five and twenty grains gradually. He has occasionally given 40 grains, but he believes that this is seldom necessary, and the cases treated by him have responded very favorably to 30 grain doses and less. As a rule, he finds one dose daily suffices, but in severe cases he does not hesitate to give it night and morning, and also in cases not apparently severe, but in which the leukocytosis does not rapidly reduce. The ipecacuanha is given in keratin capsules, 5 grains in each; given in capsule, both the nausea and vomiting are greatly reduced. Many patients do not vomit at all, but only suffer for a short time from nausea, while some few are absolutely free from any unpleasant or abnormal sensation. It is a question whether the capsule breaks or comes undone before it has passed through the pylorus. After swallowing the ipecac, the patient is enjoined to lie absolutely still in bed, when, under the influence of chloral, he usually soon drops to sleep, and if he wakes up two or three hours later, feeling uncomfortable, the drug will at all events have largely exerted its influence.

The daily dose of ipecac is continued until the leukocy-

tosis falls to 10,000 or less, and the temperature has become normal, and the pain or discomfort in the region of the liver has gone, this latter being among the first symptoms to disappear under this treatment. Then the ipecac is continued for another week in daily doses of 20 grains, for by this time, even in cases in which the drug has proved obnoxious, toleration is usually established, and the patient, seeing the result obtained, is seldom refractory. Other important accessories, such as diet and rest, are very carefully arranged for. At the end of about two weeks patients are allowed up, and after a few days are sent away for a change, and urgently advised never to touch alcohol in any form, no matter how moderately, so long as they have to reside in India.

In intestinal amebiasis Brem and Zeiler (*Am. Jour. Med. Sciences*, Nov., 1910) have had an excellent experience with ipecacuanha. They are quoted as saying:

1. We despaired of success after four years of experience in attempting to eradicate intestinal amebiasis by means of rest, dieting, and lavage of the colon. We used copious enemas of normal salt solution, quinine, thymol, and quinine and thymol combined.

2. We have apparently cured 14 amebic infections with ipecac—8 with dysentery followed six weeks to five and one-half months with repeated examinations for amebæ; 3 with dysentery followed less than six weeks; 3 without dysentery followed two to five months. We have failed to eradicate the infections in 4 cases, but these were not thoroughly treated.

3. The thickness of the salol coat of the ipecac pills must be carefully regulated so as to prevent vomiting on the one hand, and on the other, the passage of intact pills through the intestinal canal.

4. Probably the best dosage and method of administration is to begin with 60 or 80 grains at bedtime, and decrease the dose 5 grains daily until a dose of 10 grains is reached. Rapid cures may sometimes be effected by giving 40 grains three times during twenty-four hours.

5. The patient should be at rest in bed, and on a liquid diet; no solid food or milk should be given for at least six hours previous to the ipecac and no liquids for three hours previous. No opiate is necessary.

6. Our experience indicates that a large proportion of amebic infections can be eradicated by ipecac treatment. It is far superior to any treatment that we have hitherto tested, and it should always be given a thorough trial before surgical treatment is attempted.

Vedder's (*Bull. Manila Med. Soc.*, March, 1911) experiments showed that the action of ipecac on the ameba is much more powerful than on the dysentery bacilli. Amebas in a 5 per cent. bouillon culture were at all times killed by a fluid-extract of ipecac in a dilution of 1 to 50,000, and sometimes killed by even higher dilutions. In these experiments two varieties of amebas were used, one isolated from tap water and one isolated from the stool of a normal man. Vedder was unable positively to identify either culture, but is sure that neither of these varieties was either *Entameba coli* or *Entameba dysenteriae*. Vedder insists on using an ipecac which contains the proper amount of emetin upon analysis and if this is not possible, he emphasizes the necessity of getting the Brazil root.

Magnesium Sulphate.—Choksy (*Lancet*, Feb. 4, 1911) has been treating erysipelas with external applications of magnesium sulphate, a drug which until three years ago was only used for its effect upon the bowels.

Tucker used it in the Philadelphia General Hospital (*Ther. Gazette*, July, 1911) for the relief of pain in local inflammatory conditions. He was surprised with the results, as the drug not only relieved pain, but eventually cured the inflammation. He found it of surprising benefit in gonorrheal epididymitis, gonorrheal arthritis, orchitis, neuritis, acute articular rheumatism, erysipelas and cellulitis.

He also used it by intraspinal, subarachnoid and subcutaneous injections for the relief of spasm in tetanus, and of the lightning pains of locomotor ataxia. Miller treated 11 cases of tetanus with subarachnoid injections with 5 recoveries. The dose is 1 c. c. of a 25 per cent. sterile solution to each 25 pounds of body weight of the patient.

Tucker describes the effect of magnesium sulphate in 19 cases of erysipelas complicated with alcoholism, acute nephritis, myocarditis and pneumonia with only 3 deaths, and also 35 uncomplicated cases with no deaths.

He has used magnesium sulphate in over 700 cases and commends it because it is cheap, easily obtainable, non-toxic, easy of application, gives prompt relief from distressing local symptoms, and causes a rapid and permanent fall of temperature, thereby eliminating possible febrile complications. He only gives a milk diet for the first few days until temperature is normal and in uncomplicated cases gives no internal medication.

Jackson (*N. Y. Med. Jour.*, June, 1911) used intramuscular injections of magnesium sulphate in 5 cases of articular rheumatism with excellent results. He uses a 25 per cent. solution, injecting into adults 4 c.c. into any muscle that is handy.

Nickel Sulphate.—Kopinski (*Month. Cyl.* June, 1911) has found this drug to be of value as a destroyer of germs and an anti-bactericide. Not only in the common parasitic skin diseases does he find it of benefit, but when applied in a strength of 1 or 2 per cent. aqueous solution, as a wet compress, it was distinctly helpful in impetigo contagiosa, chromophytosis, ringworm and eczema marginatum.

In acne vulgaris it can be applied several times a day and if the patient is young and pale it can be given internally 1 grain t. i. d. after meals. Kopinski also found nickel of use in chorea, motor disturbance with spasm and incoördination much like chorea, chronic neuralgia of the face, tic-douloureux, migraine, chronic enteritis, epilepsy, emotional and psychic weakness and neurasthenia.

Meat Shrinkage in Cooking.

A recent consular report calls attention to the tests at the London Electrical Exposition which demonstrated that the shrinkage of meat when cooked in a coal range is somewhat greater than that of the same meat cooked in a gas range, and considerably more than when cooked in an electric range. A leg of mutton weighing 8 pounds and 8 ounces showed a shrinkage of 2 pounds and 11 ounces when cooked in the coal range, whereas a leg of mutton weighing 9 pounds showed a loss of 1 pound and 4 ounces when cooked in an electric oven. The shrinkage for the gas oven was 2 pounds and 4 ounces on an 8-pound leg of mutton.

Metal Cutting Oxygen Plant.

The demand for oxygen for metal cutting and oxyacetylene welding has become so great in England that a new factory for its production has just been erected in Sheffield, making the eighth of its kind in Great Britain. All of these plants are of the modern liquid-air type, producing oxygen of a high degree of purity, and when the Sheffield factory is in operation their total output will be about 300,000 cubic feet a day.

The presence of diabetes (*Am. Jour. of Surg.*) should not deter the surgeon from giving a patient with that malady the benefit of relief from a surgical disease.

Syphilis simulates nearly every (*Am. Jour. of Surg.*) other surgical disease, and the most virtuous are subject to its ravages.

The Physician's Library

The Practice of Medicine.—By Frederick Taylor, M. D., F. R. C. P. Consulting Physician to Guy's Hospital; Examiner in Medicine, University of Cambridge, etc. Ninth Edition. 1121 pages, with 8 plates and 67 text cuts. Cloth, \$6 net. New York: The Macmillan Co., 1911.

This valued treatise on the art of medicine as practised to-day has been thoroughly revised since the last edition was published in 1908, and by the addition of many features and much interesting data the volume is decidedly helpful to both medical students and practising physicians.

Dr. Taylor has given especial attention to symptomatology, diagnosis, prognosis and treatment, steering clear of theories and adhering closely to facts. Considerable improvement has been made in the sections devoted to Appendicitis, Ankylostoma, Anemia, Aphasia, Diabetes, Hysteria, Leuchemia, Phthisis and other subjects, while among the conditions discussed for the first time are Amyotonia Congenita, Bacilluria, Enterospasm, Hirschsprung's Disease, Intermittent Claudication, Lymphatism, Meralgia Paresthetica, Myotonia Atrophica, Pellagra, Pneumatia and Pneumococcal Meningitis.

Nervous and Mental Diseases.—By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., Professor of Psychiatry, Columbia University. Seventh edition, revised. Octavo volume of 932 pages, with 338 illustrations. Philadelphia and London: W. B. Saunders Co., 1911. Cloth, \$5.00 net; half morocco, \$6.50 net.

No more popular book on this subject has been produced than the work by Church and Peterson. Since its original presentation to the profession in 1899, the book has been revised five times and each revision has given expression to much of clinical value. In the seventh edition we note the introduction of the descriptions of conditions due to reduced pituitary activity, a section on Amyotonia and a rearrangement of the chapters on Aphasia, Meningitis, Pellagra and Poliomyelitis.

We are gratified to note that the form of classification now in vogue in this country has been adopted by the authors.

Diseases of the Ear.—By William Milligan, M. D., Aurist and Laryngologist to the Royal Infirmary, Manchester, etc., and Wyatt Wingrave, M. D., Pathologist to the Central Throat and Ear Hospital and to the Polyclinic, London. Octavo. 596 pages, with 293 illustrations and 6 colored plates. Cloth, \$5.00 net. New York: The Macmillan Co., 1911.

The necessity for a more definite knowledge on the part of the general practitioner of the diseases of the various parts composing the auditory apparatus has caused two well known English aurists to produce a most efficient otological text-book. After devoting considerable space to the anatomy of the parts, the authors go into the various methods of examining the ear, nose, naso-pharynx and pharynx comprehensively. Then follow the injuries to and diseases of the external, middle and internal ears, with enlightening chapters on diseases of the nose, naso-pharynx and pharynx which involve the organ of hearing.

Dr. Purves Stewart adds an instructive chapter on the diseases of the ear in relation to general medicine.

The book is extremely practical.

Treatment of Fractures by Mobilization and Massage.—By James B. Mennell, M. D., B. C., Cantab, House Surgeon, etc., St. Thomas' Hospital, London. Octavo, 458 pages. \$4.00 net. New York: The Macmillan Co., 1911.

The methods of treatment set forth in this book are based partially on those of Prof. Just Lucas Championnière, of Paris, who has written the introduction to the volume. During the past fifty years only eleven books have been published in America and England on the subject of fractures, and for this reason the writer has made his book practical, rather than pathological.

Dr. Mennell advocates massage for every fracture, "the slow and rhythmical repetition of a single movement, performed in uniform speed and monotonous regularity; the only permissible change, as the pain passes away, being the slightest possible, but regularly progressive, increase of pressure; but without the smallest deviation in direction." Massage performed in this manner will relieve pain speedily and greatly aid in union, the author believes. Mobilization does not connote entire absence of restriction of use or movement. It is, rather, to "be regarded in the light of a therapeutic measure, the 'dose' of which is regulated by the nature of the complaint. Thus, for a recent fracture of the surgical neck of the humerus, the treatment is limited, on the first day, to free movements of the fingers and wrist, half movements at the elbow, and only such movement at the shoulder as is unavoidable during these manipulations. But in a week's time abduction, flexion and extension of the arm should reach 50%—75%."

This method does away with splints quickly, and the author claims his results are infinitely better than those obtained by the older methods. Dr. Mennell's ideas are revolutionary, but they are worthy of serious consideration. His experience has been ample and his success marked, and we strongly urge every physician who has occasion to reduce fractures to read this book.

Biological Aspects of Human Problems.—By Christian A. Herter, M. D., Professor of Pharmacology, Columbia University. 344 pages. \$1.50 net. New York: The Macmillan Co., 1911.

This is the posthumous work of one of the most valued members of the faculty of the College of Physicians and Surgeons. After discussing in what respect the body may be considered a mechanism and how it differs from mere mechanical contrivances, he elaborates upon the nature of the self-preservative and sexual instincts, the most fundamental of all instinctive qualities in living protoplasm. He believes that "the environmental stimuli which evoke the reactions we call conduct are not of a chance nature; down to their minutest details they are part of an inevitable system. Although man lives in the midst of a world having the appearance of almost infinite plasticity and uncertainty, his life unfolds itself with relentless rigidity in the midst of an equally fixed sequence of external phenomena."

Case Histories in Medicine.—By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine in Harvard Medical School. Second edition. 295 pages. Cloth, \$3.00 net. Boston: William M. Leonard, 1911.

Dr. Cabot believes in making the physician do his own thinking. He is not in sympathy with the medical author who tells the practitioner everything and leaves nothing to his own individuality. Consequently with each case described, pertinent questions are asked and the thoughtful readers of this instructive recital will make their own diagnoses, and then read on to see how closely they can agree with Dr. Cabot.

The book differs from most works of similar nature in that it is intensely practical, every one of the hundred cases being concrete. The chapters discuss Infectious Diseases, Diseases of Gastro-Intestinal and Biliary Tract, Diseases of the Urinary Tract, Diseases of the Circulation, the Respiratory System, the Nervous System, etc. A chapter on Notes on Drug Therapy is of interest, particularly the author's views on sectarianism.

International Clinics.—A quarterly of illustrated clinical lectures and original articles by leading members of the medical profession. Edited by Henry W. Cattell, M. D. Volume IV. 21st series. 320 pages. Cloth, \$2.00 net. Philadelphia and London: J. B. Lippincott Co., 1911.

Sir Dyce Duckworth contributes a thoughtful article to this volume on Empiricism and Modern Medicine. He expresses

the belief it is time to recast our works on therapeutics to meet the new requirements of the times. Sir Dyce is hopeful of the future of medicine, believing that "empiricism is giving way gradually to the clearly ascertained results of to-day which illumine for us so many parts of the body by radiation and other exact measures, and yielding to the disclosures of biological conditions of the blood, serum, spinal fluid, urine and other secretions. Habit, Symptoms and Diseases, by Dr. J. G. Adami, of McGill University, contains much of distinct value. Dr. T. F. Reilly, of Fordham University, gives many pointers on the art of business in medicine which if carried out by physicians would add to their material welfare.

THE INCOME OF THE PHYSICIAN.*

By R. LINCOLN GRAHAM, M. D., NEW YORK.

Let us consider, without statistics and conditions being cited, what can be done to increase our earning capacity. Where money is considered, let us cease to be impractical physicians and reason as business men should.

It is true that education, hygiene and prophylactics have obliterated many dreadful epidemics, and to-day smallpox, scarlet fever, typhoid and diphtheria are confined to sporadic cases. On the other hand, neurotics, dyspeptics and hypoplastics are more prevalent and better understood than in former generations and, from a monetary standpoint, these conditions are more desirable to physicians.

Why is it that some physicians succeed in earning handsome incomes while the majority of us struggle for a hand to mouth existence? Off hand, we might accept the laity's opinion, that the "successful physician is the good physician," but cold analysis of the facts leads to the conclusion that the *successful physician is the good business man*.

Several years ago I called on a classmate practicing in this city. His success is a source of amazement to his classmates, for he is a man of little or no personal charm, no education beyond his profession, no influential relatives, no political nor church influences, no associations that would advance his clientele, and no prominent office location, yet from the earnings of his first fifteen years of practice he has been able to save two hundred thousand dollars, and now annually collects over twenty thousand dollars from his practice. I will repeat part of his conversation on this occasion.

"Graham," he said earnestly, "you know I had a hard time getting through college, substituting in drug-stores to earn the wherewithal, but while you and the other fellows were deeply lost in the scientific end of the profession, I became more and more awake to the opportunities the profession afforded for making money. You studied the disease and took the patient incidentally. I studied the patient and took the disease incidentally. From the very beginning of my practice I sought to impress upon my patients that they were under obligations to me for my treating them and taking their money. On the other hand, you thanked them for paying you and assumed a menial attitude when they employed you.

"When I started practice," he went on, "I was flat, dead broke. Many a day my main meal was a sample bottle of baby's food, yet to my patients I acted as indifferent and independent as though all the world sought my services. I attribute all my success to the fact that I have been able to convince my patients that my services are worth more than they pay me for them.

"Never be commonplace," he continued, "never permit familiarity on the part of the patients. Never put yourself on the same plane with others. Never confide in any one. Study your patients, and the more difficult they are to please, act the more indifferent toward them. Ignore rich patients the most. Do not explain anything, for your patients pay you for your

wisdom, not for your instruction. Do not tell all you know, keep as much 'up your sleeve' as possible. Don't be afraid to ask for your fee, but rather suggest that they pay you than ask outright. Do not dicker with dead-beats; drop them entirely. Be methodical and keep your office hours promptly. Make your profession your business and study the methods of improving your business."

Such are the views of one of our fraternity who has made an exceptional financial success of his profession, and at the same time has done splendid conscientious work among the sick. These views present to me strong merit and I urge your consideration of them.

Within the limits of Yorkville, one of our colleagues stands out prominently as a money earner. Although he now allows himself three or four months vacation every year, his income has been estimated at from sixty to ninety thousand dollars a year. In an unintrusive way I have studied his methods and believe some of them are so very commendable that they merit imitation.

This physician takes his profession with an assumed seriousness. No case is so trivial that it can be lightly considered. Every patient receives an exhaustive examination, both subjectively and objectively. No case belongs to any class, but stands out as an individual case, requiring special deliberation. Those psychological conditions we are apt to consider insignificant have his closest attention, and hypochondria and hysteria are of equal gravity to malignancy. Many of those details bordering on "fussiness" he has his assistant attend to with minute thoroughness. No patient is directed to take a rectal injection, but instead this doctor's assistant must give it promptly at nine o'clock. Each meal must consist of prescribed quantity and quality and be eaten at a designated time.

However wearisome and needless these details may appear to most of us, I strongly urge you to imitate one of his rules. I have followed it now for three years, and can assure you that it has brought only most gratifying results, both to my patients and to myself. This rule is: *Never permit a patient to control your prescription.*

Not even the most vivid imagination can fairly picture the evils that the indiscriminate writing of our prescriptions and handing them over to our patients have caused. The psychological fact of taking medicine prescribed by a physician is a very important element in the treatment and cure of disease. Too large a percentage of the laity readily take medicine solely because some physician has prescribed it. Our commercial brethren know this and daily load ourselves and desks with samples of their proprietary medicines, satisfied that our patients seeing them there will be impressed with their merits.

A typical case recently came under my observation. I was visiting an attorney in this city, a man of ordinary mentality, and seeing him pour out a spoonful of medicine and swallow it, I asked him if he were ill.

"No," he replied, "but you know I am apt to get a cold every fall, and for the past five years I have been taking this medicine to keep me from colds. Honestly, Graham," he went on, "you ought to get that prescription. It's the best medicine I ever took. A client of mine gave it to me five years ago. He got it from his doctor. I've recommended it to hundreds of people. The clerk down in — tells me he has put it up over a thousand times. I gave it to Reverend — of Jersey City, and he's got nearly his whole parish taking it."

My cupidity prompted further investigation and this wonderful cure consisted of Tinct. Opii Camphorata and Syr. Scilla. The clergyman and learned advocate were indeed chagrined to learn their philanthropy resolved itself into converting trusting friends into opium habitues.

Have we ever considered what evil we do when we go further and hand out these samples to our patients, with the far-reach-

*Major portion of a paper read Dec. 18, 1911, at a joint meeting of the Yorkville Medical Society (N. Y. City) and the New York County Pharmaceutical Society.

ing advertisements attached to them? Apart from the uncommercialism of this practice, is it not a crime to hand out to the gullible public with our endorsements a remedy the uses of which the public cannot understand.

The topic of advertising proprietary drugs cannot be too strongly considered, for it is the fundamental cause of the physician's impoverished condition. To-day, many of these products are no longer powerful aids to cure disease, in the hands of learned physicians, but are everyday remedies in the hands of ignorant people, indiscriminately used and capable of incalculable injury to those who indulge in them. Yet when we search out the real culprits we find ourselves solely to blame.

How bland and insignificant the words: "Physician's sample" appear to our minds, but how gross and important they are when indelibly stamped upon the minds of our patients. Not only the more ignorant of the laity are victims of this mania; we find this aptness of taking drugs that have been endorsed by physicians among the very learned. A recent illustration occurred in the Supreme Court of our city. While testifying in a case, I was asked by the presiding judge from the bench concerning the merits of a German proprietary medicine that I never heard of, and upon informing this learned jurist of this fact he became enthusiastic in his praise of this remedy as a rheumatic agent.

While on the topic of proprietary remedies, I would like to ask my colleagues if they ever considered that their unbusiness-like methods of conducting their practice have made the United States pay annually to Germany at least ten million dollars for drugs the very physiological action of which we do not understand.

It is high time we ceased to be victims of the Hysteria Americanum, and search out the motive for all these scientifically advertised remedies. Ask your druggist what percentage of prescriptions are for proprietary remedies and you will be astounded at the enormous proportion.

To control your prescriptions various methods can be followed, and you can adopt any method which best fits your situation. My plan is to arrange with certain druggists that they will compound my prescriptions and, without my written permission, will not renew any of them. Where I believe the patient will not follow my directions and have the medicine made up where I direct, I simply 'phone to the druggist in the presence of the patient and give to the former the recipe over the wire. As a rule you will find the druggist will heartily co-operate with you, for they have everything to gain by doing so. From commercial and scientific standpoints, after three years of use, I can heartily endorse this method and urge my colleagues to imitate this procedure.

The use of tablets in my hands has not met with satisfactory results, as I found them at the best but compromise treatment, useful in emergency but unscientific, not adapting the dosage to the individual case considering the idiosyncrasy and physical conditions of the patient.

The advantage enjoyed by the homeopathic physicians is due in my opinion solely to the fact that these physicians control the medicines as well as the patients.

Second in importance, I believe is a very skeptical reception of proprietary medicines and a positive stand that their alluringly worded therapeutic values shall not be given to the laity with any appearance of our endorsement. Put these preparations where they belong and don't bring your patient into any particular class but individualize each patient and adapt your prescription to his particular ailment.

By this latter remark, I must not be construed as advising you to encourage hypochondriacal conditions in your patients; rather the opposite, for it is the hard-headed business man or the capable managing woman who pays your bill, and these two classes of people soon discriminate humbug from earnest effort when it is costing them money.

Third in importance is the adoption of business-like methods in practice. If a patient wishes credit from a physician, have him give references as to his ability to pay. To our shrinking minds it seems unprofessional to say to our patients: "What terms do you wish; cash or pay at the end of the month?" However, the patients are accustomed to these questions, for they are asked them every day in their business dealings. We are exceptionally favored in refusing to extend credit, for the hospitals and dispensaries are open to the irresponsible.

Fourth in importance is publicity. Without it we would starve. Our very sign; the carriage we drive; the obstetrical bag; and, when young, the whiskers on our faces are advertisements. The physician who says he does not advertise lies, and he deceives no one but himself.

Not long since I was greatly amused by a long harangue by a pompous colleague decrying the evils of advertising. When he had exhausted himself, he was decidedly chagrined to note that his audience was smiling at him. All of us knew full well that this physician himself did not find the burden of publicity a personal matter, for his wife had taken it up and was the best advertising medium in the city, and by her resistless energy and social activity she had brought this practitioner of ordinary ability a practice of twenty thousand dollars a year, while news items with his name and address frequently found their way into the public press.

Every one of us who seeks hospital connections, clinics, associations with medical institutions, prominence in medical circles, does it for the practical purpose of advertising himself or the foolish purpose of gratifying his vanity. It is unnecessary for me to detail to you the prize that an appointment as operating surgeon or consulting physician to one of our larger hospitals is considered. I am not besmirching charity and philanthropy when I say they owe much to the need of physicians for publicity. I am not saying that the medical attendants upon public hospitals are not men of decided ability, but I do say that they intend the public to know of this ability. Hospital work is an expensive and laborious means of advertisement.

There are two evils produced when the channels of publicity are checked; the first is to the public and the second to the physician. The public is unable to secure the services of the expert unless directed by the family physician, a friendly drug clerk or indulgent friend. The quacks, the free clinics and the hospitals reap a rich harvest because of this fact, for these are the only channels offered to the bewildered people.

Would we lessen the burden of charity and philanthropy? Would we secure the best care of the afflicted? Would we give physicians the opportunity to earn their living at what they can best do? Then must we open wide the channels of publicity.

Why is it that so frequently an American physician sees his foreign-born neighbor thrive, while he himself suffers the pangs of starvation? Let him look into the columns of the daily papers published in foreign languages and there will be found the answer. There he will find his neighbor, while enjoying the same ethical privileges he himself enjoys, is elaborately portrayed as following some particular specialty in his practice. When I was studying in Berlin it was not considered non-ethical for a physician to insert his card in the daily papers, and it was the usual thing for the beginner to do. I have been told that it was not considered improper to advertise in papers of foreign language. It certainly is a grave hardship on the American speaking public and the American speaking physicians to be denied opportunities and privileges in their mother country that foreign-born and foreign-speaking people enjoy. If this be a hardship from an ethical standpoint, it certainly is absolute suicide from a commercial standpoint.

The standard of ethical practice as established by our various county medical societies usually varies with the individual. For instance, a certain physician well known to me put on his sign

the specialty he followed. He was notified that he would be expelled from the — County Medical Society unless he removed this sign. On the other hand a physician in widely distributed literature claiming remarkable cures for his baths, etc., advertised the fact that he was formerly president of the — County Medical Society, and yet as an individual he was too influential even to be censured.

I do not wish to assume the role of a reformer, but it certainly is high time that we question the motives behind these rules of ethics. Are we victims of a clique of the favored few? Who profits by the existing conditions? Are not these ethical laws (?) originated in the minds of far-seeing commercial men, who would add glory to their achievements, by seeing medical institutions in which they are interested print in their annual reports increased incomes and increased work among the sick? Why are the channels of publicity closed when it is against public policy and public welfare and takes from the physician opportunities to earn his livelihood?

You can enjoy all the ethical privileges provided you put the burden of your advertising on a second party. Near us a young physician has sprung into a wonderful practice and, though practicing less than ten years, has probably one of the best paying practices in the city. How does he do it? The matrons of some six of our largest hotels in this city could collaborate upon an answer, for they are in his employ and they see to it that he is thoroughly advertised in these hotels and elsewhere.

Again, a modest little physician collects more than thirty thousand dollars a year treating venereal diseases, at a fixed fee per visit, including medicines. No printer's ink announces his fame, and among his colleagues he is not well known. How does he do it? He has a splendid advertising agent, who for seven nights a week spends his time in the various hotels and engages in conversation with the frequenters of these places, elaborating upon the wonderful benefits obtained from visiting Dr. —, and finally handing the victim the doctor's card with an introduction scribbled on the back of it. They come from Maine and from California for this doctor's treatment.

Less than two years ago I was offered by a certain attorney, prominent in wealthy social circles, his co-operation if I would put myself in his hands and divide equally with him my fees. He assured me we could divide a handsome income between us if I would agree to enter a contract with him. Fortunately I was able to keep my self-respect.

A very simple and inexpensive solution of this difficulty has presented itself to me. An expenditure of two hundred dollars in printer's ink would in all probability mean an increased earning of from two to ten million dollars annually by the physicians of New York; would mean a lessening by more than one-half the patronage of the free clinics and dispensaries; would mean that the specialist could afford to treat his cases at non-prohibitive prices, and that we all with equal opportunity could earn our living at what we can best accomplish.

Every physician should be registered under that specialty he wishes to practice, and these registers be placed prominently in all police stations, fire houses, board of health stations, drug stores, etc. The nose and throat men, ear and eye men, heart and lung men, general practitioners, surgeons, etc., would be in their individual lists. The eye man would escape being called to a confinement and the surgeon to treat a case of measles.

The bewildered public would know where to go to be treated for particular ailments. People living out of the city would soon learn that they could visit our great metropolis and readily find a specialist to treat their particular disease. The channels that lead to advertising quacks and free dispensaries would be diverted and the public could avoid the humiliation of accepting charity, while you and I could feel that we were getting a fair chance of competition with the favored inside few who monopolize the output of the dispensaries and the hospitals.

Fifth, and final in importance is to avoid becoming "faddists."

At first your success in some particular line may appear decidedly remunerative, but in a short time you will gain a reputation that will react against you. Because you have removed an appendix successfully, be careful in your differential diagnosis before you jump to the conclusion that all gastro-intestinal disorders are true appendicitis. Because you have seen good results from removal of tonsils or adenoids, do not make it a routine practice to remove these glands from every patient who visits your office. The public is quick to learn our failings and to ridicule us because of them.

Now-a-times, the practice with many of us is not to seek a cause for the treatment, but an excuse. We exercise too little reason and logic in our daily routine. We seek largely for what we wish to find and are too earnestly concentrated in compiling statistics to be analytically scientific. In conclusion I would add that we are now reaping what we have sown. The soil was fruitful, but we are careless husbandmen. We let the seeds of quackery, advertised proprietary drugs, prescriptions, humbugging, faddism, over-sensitiveness, hospital and dispensary fame, statistic fanaticism be scattered thickly and often in our field of labor, and now we find their weeds have choked off much of our fruit, and our very existence is menaced.

Fight back to where we should be is our one salvation. "Let our lights shine before men." Let us be physicians, let us go to the public with our best products, and the public will soon learn to buy them, let us control sickness and not merely write prescriptions with our names attached. Let us seek truth, and not statistics, and then will the public open its purse and we will be worthy of the "well done, good and faithful servant."

THE GERMS.

(With Poe-etic Apologies.)

I.

Hear the doctors with their germs—
Latin germs!

What a world of warning in their highfalutin terms.

How they tell us, tell us, tell us

Of the cunning of the blight

Till the very words grow jealous

Of the things that fain would sell us

To the doctors in their might;

Spreading 'round, 'round, 'round,

Through the water, air and ground

To the deep confabulation that so medically terms

Them the germs, germs, germs, germs,

Germs, germs, germs—

O, the pathologic genius of the germs!

II.

Hear the patients with their germs—

Eager germs!

What a world of good it does them as their victim squirms.

O, it fairly makes us cringe

As we feel each hateful twinge

From the pathologic site

Where the mad

Microorganisms fight.

Till the patient hails the doctor with delight!

It is sad,

For what comfort in his terms,

While the plagued microorganisms give us to the worms!

O, what terms

For our squirms!

How each sufferer affirms

He despairs before the terms

Of the gnosis and mitosis

Of the germs, germs, germs!

Of the germs, germs, germs, germs,

Germs, germs, germs!

Of the naming and the blaming of the germs!

III.

Hear the battle of the germs—

Myriad germs!

What a weird confusion their manoeuvring confirms!

With the watchful phagocyte

How they struggle and they fight—

With eosinophile

How they sit up, and still
Wildly strive!
In a clamorous appealing to the undertaker's power
In a mad expostulation with a countenance so sour,
With a resolute endeavor
Trying ever, ever, ever
To persuade the undertaker
O, that impecunious fakir
Till he even dares to bury us alive!
O, the germs, germs, germs!
How the luckless patient squirms
As they thrive!
How they gain and get and grow
As, by millions, in they flow
While the patient fails as millions more arrive!
And the pulse it plainly tells
By the pumping
And the thumping
How the danger sinks and swells!
And the breathing plainly shows
By the snatching
And the catching
How the danger comes and goes!
By the scowling and the growling of the doctor, with his terms
Of the germs,
Of the germs, germs, germs, germs,
Germs, germs, germs!
To the gaining and the waning of the germs!

IV.

Hear the naming of the germs—
Morbid germs!
What a world of menacing the students give the terms!
In the accents of the Greek,
As they vainly try to speak,
Or with taste of cigaret upon their tone,
So every word that floats
From the smoke within their throats,
Latin thrown,
Of the coccus-pneumococcus,
How it dares to do and mock us,
As is known!
And the prevalent bacillus
Into thousands more has grown
Till they catch us and they kill us
As the doctors all have shown!—
They are neither man nor woman
They are neither brute nor human,
They are Germs!
While the patient weakly squirms,
Science terms, terms, terms,
Terms!
And the student's bosom swells
As their character he tells
And his mind upon them dwells
And he dances and he yells!
How they mix, mix, mix
Every sort of leptothrix
To the finding of the terms
Of the Germs!
How they fix, fix, fix
Every sort of cladotrix
To the laboratory plates!
Every germ, germ, germ,
Ere another germinates!
And they count, count, count,
As each squirms, squirms, squirms,
On the histologic mount,
With the terms, terms, terms,
Of the germs, germs, germs,
To the naming of the germs,
Of the Germs, germs, germs, germs,
Germs, germs, germs
To the claiming and the taming of the germs!

—Il Penseroso.

Purge.—Sulphate of magnesium, glycerin, syrup of lemon, a few drops of deodorized tincture of opium, and water. Divide the dose so that a portion is taken hourly.

Death duties in the United Kingdom during the year which ended in April last, yielded \$127,260,000; the total yield in the last ten years amounted to \$959,740,000.

Eczema,—a Bête Noir.

Those who have struggled with this disquieting ailment will join with the most instructed in saying that no topic offers more unsatisfactory "meat" for ex cathedra utterances. It is probably true that eczema is less a disease than a morbid reflex, or response to stimulus. So much so that eczema may be termed functional, as headache, or more exactly, metabolic.

Recent work looks to the separation of amino-bodies, some of which may be thought causative of the dermal response. However, we may safely assert that eczema is a response, and one which concerns the changes in surface tension of the human organism. All over the body and penetrating each orifice is the ectodermal layer. This possesses a certain element of tension, which is available for normal tone, and its purpose is to restore the tissue in disease, or after traumata.

We recently asked a dermatologist to express some opinion upon the general and underlying conditions in this syndrome. He declined, saying there is no topic which he felt less eager about attacking in any particular or definite fashion than this. Eczema is a bête noir to the physician. It is especially so because we have a general diagnosis not followed by special recognition of etiologic factors. Rheumatism, syphilis, trauma, gout, lithemia (as in headache) are enumerated as complications, or causes.

In the treatment, a restoration of the area of skin tissue is to be brought about by metabolic alterations, and by applications of a local character. To effect a change in surface tension, by lotions, pastes, or powders, will not regenerate, if the vicious circulation or grossly disorganized middle-products persist. To this end, diet, laxatives, tonics, alteratives and topical remedies are indicated. As a French writer wittily remarks, "Une chaude-pisse commence, dieu seul le sait quand elle finira," equally so one may predicate an indefinite course of any chronic eczema. This is true in the latter instance because of our incomplete studies in skin metabolism, especially in that of the middle products of urea formation and disintegration.

The use of camphor, in pastes, creams, and especially lotions, is often helpful. Lime-water, giving the positive calciumions, may be of use. The question of indolence or congestion is to be thought of, and the lesions must be studied with regard to their anatomical localization. Almost everything in the world has been rubbed on these eczematous spots, from time to time, so that empirically we may be sure of some justification of any treatment. The sum of the matter is that until exact physiologic and physio-chemical studies are at hand we must regard eczema as a symptom.

Febrifuge.—Salol, Acetanilid, nitrite of potassium, bicarbonate of sodium, and minute divided doses of powdered ipecac.

Tooth Powder.—A cheap and efficient dentrifice is B precipitated chalk, $\mathfrak{z}\text{ii}$; powdered castile soap $\mathfrak{z}\text{ss}$; powdered orris root, $\mathfrak{z}\text{i}$. Mix thoroughly.

In any case in which chacterization (Am. Jour. Surg.) is required, however careful the nurse or physician, administer hexamethylenamine as a prophylactic against cystitis.

There is no convincing argument (Am. Jour. Surg.) in favor of amputating normal omentum found in a hernia. There are sound arguments against it.

Febrile diarrhea: Give a mixture of lactic acid, with paregoric and some diluent.—Journal des Praticiens, Jan. 2, 1909.

FACTORY DANGERS.

AFTER the event—that is, the dreadful fire which destroyed 145 lives in the Washington Place shirt factory in New York City, the legislature at Albany appointed a Factory Investigating Committee to consider the following matters:

Hazard to life because of fire; covering such matters as fire prevention, inadequate fire escapes and exits, number of persons employed in factories and lofts, arrangement of machinery, fire drills, etc.

Accident prevention: guarding of machinery, proper and adequate inspection of factories and manufacturing establishments.

Danger to life and health because of insanitary conditions; ventilation, lighting, seating arrangement, hours of labor, etc.

Occupational diseases: industrial consumption, lead poisoning, bone disease, etc.

An examination of the present statutes and ordinances that deal with or relate to the foregoing matters, and to what extent the present laws are enforced.

To recommend such new legislation as may be found necessary to remedy defects in existing legislation and to provide for conditions not now considered.

What especially interests us here is the statement made by A. I. Elkus, Esq., the counsel of the committee, that occupational diseases, poisoning and "industrial consumption" are now permitted to go on unchecked. Men are permitted to handle arsenic with gloves, to breathe ammonia and turpentine fumes without protection, "to fill their lungs all day long with dust and other harmful substances. Charity ineffectively palliates what wise and just special legislation might effectively prevent." To all of which we heartily agree; except that we do not understand why such legislation should be "special" in character.

The subject of the baneful relation of disease to industrial occupation is indeed a vital one to-day—and the fact is gratifying. At least three excellent lay monthlies have, in their October issues, articles devoted to "industrial" or "occupational" diseases. It is well held, in the first place, that accident in industry must be reduced to a minimum by the adoption of all possible safeguards; and in the second place, where accident cannot be eliminated, it must be recognized as a constant factor, to be taken into account, and provided against by some form of compensation or insurance. The latest advance has been made in recognizing that the American workman is subjected, as a necessary incident of his daily occupation, to various forms of disease which may maim or slay less rapidly than "accident" does, but which in the long run are as surely fatal.

Occupational disease manifests itself in one of two ways: special industries give rise to their peculiar ailments, as phosphorus jaw among match workers, or caisson disease among underground laborers; or they render the workmen susceptible to certain common types of disease, such as tuberculosis and pneumonia. We have in the United States few reliable statistics of disease or death by reason of our industries. But our leading insurance actuaries have used German statistics in estimating the prevalence of occupational disease in this country. Assuming an industrial population of 33,500,000, German experience would indicate 13,400,000 of sickness during the last year, with an aggregate ailment period of 285 million days, and a waste in wages, medical cost and employer's losses of nearly eight hundred millions of dollars. More striking even than this vast money waste is the preventable loss of life, which is estimated at one-fourth the total number of 330,000 among American wage-earners.

The New York Evening Post well observes that while there is no need of formal statistics to prove the existence of a problem, we must have figures as a preliminary step towards effective remedial legislation. More than that: Figures that bring out the seriousness of the evil and place it in contrast with the comparative ease of remedying it, cannot but act as a spur to the general conscience. For example, a harmless process of manufacturing matches has been discovered; but since it increases the manufacturing cost of matches by about five per cent. (sic) the new method has failed of general adoption "through the fact that those makers who used it were placed at a disadvantage in competing with others not employing it, so long as its use was not compulsory." Thus the wasting of one match in twenty necessitates the continuance of phosphorus-poisoning with its attendant horrors. Figures can be made to bring out the difference, as measured in life, between a conscientious attempt to safeguard the workingman and the neglect of him.

The present interest in occupational diseases testifies nevertheless to the growth of a healthy public feeling. Progress is being made, and, what is more, whatever ground is gained will surely never be lost. Ten years hence we may or we may not feel, as we do to-day concerning direct nominations, commission government and the recall, but whatever is done to combat disease and death among the workers is bound to remain a permanent conquest of humanity and civilization.

Prophylaxis in Hotels.—It is reported that in one of the New York hotels there is now done systematically and scientifically what has always been done in all hotels after a fashion and poorly—the guests are protected from contact with employees who are in such state of health as would make their proximity dangerous. The plan is to subject the servants of all grades to regular and frequent examinations by competent doctors; and those adjudged likely to spread infection of any sort are removed. That may or may not mean something more than merely discharged, to take their perils elsewhere; but one can hope that it does. When the reform was started in this hotel only twelve of the 450 employees refused to submit to the test. Possibly they knew that they would not pass. Obviously the procedure is a sensible one; and though sure to inflict some hardships, the general welfare should be promoted. In the end it may advantage those who would seem to be its victims. Like examinations would be justified in many other places than hotels. They would form a part of the "preventive medicine" now recognized as of vastly more importance than curative procedures.

Extract of Belladonna.

Danckwortt (*Arch. der Phar.*) has made an exhaustive study of belladonna in order to decide in what way the richest extract can be prepared. He comes to the following conclusions, after numerous assays: (1) The leaves of belladonna contain less alkaloids than the aerial portion of the plant taken as a whole; (2) the percolation of the dry drug yields a richer extract than that obtained from the fresh plant; (3) the extract obtained from the whole of the dry plant (except the root) is richer than the extract from the dry leaves alone, but the amount obtained is greater in the latter case.